Addresses.

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THE EDUCATION OF THE PUBLIC IN MEDICAL MATTERS.

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Permit me first to express my sincere appreciation of the honor conferred upon me by being chosen as orator for this occasion. The list of my predecessors includes the names of many men, eminent in our profession, whose success in this position I cannot hope to equal. If you go away without regrets at your present choice, and with a feeling that the time has not been wasted, I shall be satisfied.

In searching for a suitable subject, one naturally thinks of the wonderful achievements of modern medicine. During the past few decades progress in the advance of medical science and in the art of healing has been so great and so rapid that one is tempted to picture some of these achievements and to make a congratulatory address on what has been accomplished. This would not be inappropriate before a society whose members have taken an active part in this advance. However, the spirit of progress demands that we constantly press forward, and that we seek new problems and try to solve them. Instead of resting on our laurels, we must ask ourselves whether we have really done our best in all respects, and whether there are not still other ways in which we can render even greater service to humanity.

If I turn from the attractive field of the accomplishments of the profession and of our society, I hope it will not be interpreted as indicating any lack of appreciation of the great work of the past. Neither should a discussion of what may be done in addition, now and in the future, be understood as a criticism, because it has not been accomplished before. This is especially true of the problem of our duty in the education of the public in medical matters, for it is a relatively new one.

Why do people in general show so little appreciation of the advances made in medicine? Why has the medical profession so little influence in directing affairs which affect the public welfare? Few will maintain that conditions are satisfactory in either of these respects. We frequently hear medical men criticizing the public or the legislature for their attitude in matters of public health, and condemning their action as short-sighted and foolish. Yet practically none of these people are influenced by a desire to do injury, and relatively few would seek their own personal gain at the expense of recognized injury to others. The basic difficulty is ignorance about these matters, or at least the lack of appreciation of the significance of the problems presented.

It is not creditable to the medical profession that it merely criticizes and complains of the results. It should do its best to secure a remedy. We are dealing with an unhealthy condition of the community, yet we are too often satisfied to note the symptom of foolish health laws and customs, without studying out the cause of the trouble. Without knowing the cause, we are satisfied to treat the symptom with various remedies, —some of them borrowed from political quacks. This is empiricism,—a method of treatment more suitable a hundred years ago than in this age of scientific investigation. Why should we be satisfied to treat a disease of the community by an antiquated method, when we would be ashamed to treat an individual today in the same way?

If we look deeper, I think we shall agree that the underlying causes are ignorance on the part of the public and indifference on the part of the medical profession. The proper remedy is, then, for the profession to awaken to its responsibilities, and for it to give the public rational instruction in medical matters, to such an extent that they and their representatives may take intelligent action on problems of a medical nature that come before them for decision.

I do not expect every one to agree off-hand to this solution of the problem. There are those who will contend that this is not properly the province of the medical profession. There are others who will assert that such matters should be decided by experts of the medical profession and not by the public. There is much to be said in favor of both of these contentions. However, we must recognize the fundamental principle of the individual rights of the people. The right of the individual to have a voice in the government of the community of which he forms a part is perhaps the most cherished right of the citizens of this country. It is jealously guarded and the individual is very keen to appreciate when this principle is at stake. Before the public are willing to surrender to experts full control of matters of public health, they must be educated to believe that these are really matters that should be decided by experts, and they must have confidence in the experts who are to exercise such control. Only when they are satisfied on these points will the people be willing to delegate to experts the decisions that properly belong to them. The people have shown that in many instances they are not yet ready to surrender these rights; hence further education is needed

Note.—At an adjourned meeting of The Massachusetts Medical Society held Oct. 3, 1860, it was

Resolved, "That The Massachusetts Medical Society hereby declares that it does not consider itself as having endorsed or censured the opinions in former published Annual Discourses, nor will it hold itself responsible for any opinions or sentiments advanced in any future similar discourses."

Resolved, "That the Committee On Publications be directed to print a statement to that effect at the commencement of each Annual Discourse which may hereafter be published."

before this plan can be accepted as a solution of the difficulty.

Those who contend that the education of the public in medical matters is not properly a function of the medical profession are unmindful, it seems to me, of the progress that is going on all about us. They will hardly maintain that we should limit ourselves to the administration of remedies and should not concern ourselves with the prevention of disease. The education of the public in health matters is but one form of preventive medicine, and the profession should be willing to do its share in this work.

To the sensitiveness about individual rights, alluded to above, we find added, as an obstacle to progress in public health matters, the selfishness of individuals or of single communities. People are slow to learn that many public health measures can be successful only as community affairs which cover wide areas. The wishes of the individual must yield to the needs of the community in which he lives, and these in turn to the demands of larger communities. If people were better educated about matters of public health, they would more readily yield their personal privileges or advantages for the general good, and we should often have willing cooperation, where now we meet opposition.

Not only is an intelligent public opinion desirable for the purpose of securing wise health laws, but it is essential for their enforcement. We now have many laws of this kind which are not fully enforced, because public opinion is not prepared to accept such enforcement. The authorities are wise to rest satisfied with partial results, rather than by complete enforcement to arouse such opposition that the laws will be repealed. "Half a loaf is better than no bread." Nevertheless it is true that if the people fully understand the benefits to be derived from such measures, they not only consent to their enactment, but insist on their enforcement. The education of the public in health matters is, therefore, essential if health legislation is to be successfully carried out.

The history of our own state board of health is interesting, as showing the dependence of health measures on public support. In 1849 a commission of prominent citizens was appointed to consider public health questions in Massachusetts and to report to the Legislature the following year. A comprehensive report was made with most admirable recommendations including the establishment of a general board of health for the state. But these men were ahead of their time; the public was not intelligent enough in such matters to appreciate the value of the recommendations; and it was twenty years later, in 1869, that the legislature provided for a state board of health.

Massachusetts was a pioneer in public health work. and the excellence of this work has kept the Commonwealth always in the forefront of progress. This honorable record has been due to the ability and devotion of all members of the board, but more especially to the two eminent members of our profession who have held the position of chairman for long periods. Dr. Henry I. Bowditch, the first chairman, served for ten years. Then from 1879 to 1886 the three departments of health, lunacy and charity were merged in one board. When in 1886 the state board of health was again established on an independent footing, Dr. Henry P. Walcott became chairman and has served until very recently, when he declined reappointment.

We cannot speak in too high terms of the faithful and distinguished service which these men have rendered the state in directing this important work. The testimonial from the medical profession to Dr. Walcott, when he retired, was evidence of our appreciation of the value of the great work he has accomplished. Almost as great a tribute to him is the proposition made by the Governor, that the board of health be reorganized and the chairman replaced by a highly-salaried expert as commissioner of health. The reason for this plan lies in the acknowledged difficulty of finding any one who is both able and willing to do for the state, as a member of an unpaid board, what Dr. Walcott has done for so many years in the past.

It is not my intention to discuss fully the merits and details of this new plan. I favor it personally because, as I conceive the situation, it aims at a more complete organization of the work. By such an organization the department of health will be better able to cope with the increasing demands which will necessarily be made upon it. I wish, however, to point out that the decision of this question rests with the representatives of the people, and that they would be much more likely to accept the advice of experts, embodied in this bill, if they had themselves a better knowledge about health matters. Furthermore, no matter how excellent the plan may be, success must depend on the cooperation of an enlightened public.

The lack of knowledge about health matters in the past has been an important reason for the lack of support given to the board of health by the people and the legislature in some of the measures it wished to carry out. Had the legislature been willing to grant a sufficient appropriation, the board would have done much more on this very problem of educating the public. One of its duties as defined in the act of the legislature, was to "gather such information in respect to those (health) matters as it may deem proper for diffusion among the people." The board has had ample power, but not enough money. Even with limited means it has done some very good work in this direction.

Thus we see that in health matters, as in other affairs, it is not enough to have good laws on paper, but that we must have the support of public opinion if they are to be made effective by enforcement. Information as to the benefits to be derived from the health laws should be distributed systematically to citizens of the state,

and this duty should be performed by the state board of health. If the need of an appropriation for this purpose were presented with sufficient publicity, the legislature would not dare to withhold the funds.

Another matter in which it ought not to be difficult to secure protective legislation is the problem of clean milk. If the milk consumers,—practically the whole population of the state,—knew the real facts about our milk supply, they would not be satisfied with the present state of affairs. People are indifferent to this problem merely because they do not know the facts about it. If they fully realized the dangers from infected milk, there would be little trouble in securing reasonable legislation. No one can instruct them so well in this matter as the medical profession, yet the profession as a body has taken no effective steps in this direction. The surest way to secure proper legislation is to enlighten the public and not merely appear as a committee or association before the legislature.

It is not my intention to discuss in detail how the public should be instructed in this matter. It is clear, however, that they must be taught that milk is not merely a farm product nor an article of commerce, but a peculiarly unstable article of food which acts as an excellent culture medium for bacteria. They must understand something of the fundamental ideas about the growth of bacteria under favorable conditions, and the dangers of transmitting diseases by means of infected food. They must be made to realize how easily milk may become infected through carelessness in its preparation, transportation, and distribution, and that the time that elapses before it is consumed is often sufficient for an abundant growth of micro-organisms. They will then understand how readily it may become a dangerous article of food,—especially if consumed raw, as is frequently the case. Greater publicity should be given to epidemics which are proved to be transmitted by milk. These concrete instances should be used as object lessons for the public. They are too valuable for this purpose to be used merely for scientific reports before medical societies, or as news items in the hands of lay reporters or editors. The proper, judicious use of such information in the daily press, as a means of instructing the public, should be in the hands of wise medical men. When they know enough about this matter, the people will insist on having clean milk,—and will be willing to pay a reasonable price for it.

Our recent experience with the vaccination laws is another illustration of the danger of public indifference. Because of such indifference a good law may be weakened or even repealed, as the result of an active campaign by a noisy minority, even if it exists for the benefit of a vast majority of our citizens.

Our vaccination laws have resulted in such a widespread employment of vaccination that the community has been free from any serious epidemic of smallpox for several decades. The present generation knows practically nothing about this loathsome disease, which was formerly a veritable scourge; and a great many physicians have never seen a case. People have come to accept this freedom from smallpox as a matter of course, and they are apt to forget that constant vigilance on the part of health authorities and the continued protection of vaccination alone stand between them and the possibility of a serious outbreak of the disease. They need to be frequently reminded of these facts, or else they become so indifferent as not to care if the legal protection is relaxed.

During the present session of the legislature, people who were interested for various reasons introduced a bill which would have materially weakened the protection of the community, if adopted. It would undoubtedly have resulted in a large increase in the number of unvaccinated persons, and the danger of an epidemic would have been correspondingly increased. The bill passed the senate. For a time there was danger that it would also pass the house of representatives The advocates of the bill were extremely active, the general public appeared to be indifferent, and the medical profession did not seem to realize the danger.

Were it not for the seriousness of the matter, the situation would be amusing from its absurdity. Here was an important health measure to be decided by the majority vote of a body consisting almost entirely of laymen, few of whom had any knowledge on the subject. Without such knowledge they were responsible for defining the health policy of the state in regard to a serious and dangerous infectious disease. The legislators were flooded with literature from interested partisans in favor of the bill. At the public hearings and in personal interviews these persons plied their arguments vigorously. The legislators could not weigh this evidence from their own knowledge; they did not know that many of the so-called facts and statistics presented were unreliable; and many, at least, did not know that the precautions adopted by our state board of health, in the preparation and distribution of vaccine virus, remove all the legitimate objections of the anti-vaccinationists.

It is greatly to the credit of the representatives that they were not carried off their feet by the fierce onslaught of the advocates of this bill. It is to their credit that they turned to the state board of health for reliable information, and that they were guided by the advice thus obtained, and rejected the bill by a handsome majority.

The danger is passed for the time being, but it is not eliminated. Safety can come only when the community is convinced and has a realizing sense that general vaccination gives a much needed protection to the public in general. This information should be impressed on the public, partly by the state and local health bodies, but

partly also through efforts of the organized medical profession.

In this connection I believe the medical profession has another duty to perform toward itself. It should see that its members are above criticism in the way vaccination is performed. Let us be frank about the matter. There *is* danger in vaccination,—not in the vaccine itself, but in the careless methods of using it, which are altogether too prevalent. In Massachusetts a clean, safe virus is furnished by the state to all citizens free of charge. The necessary disturbance from its proper use is so slight that no one would question the desirability of its use in return for the safety conferred. But there is the same danger of infection connected with this proceeding that is inherent in any wound of the skin. If proper aseptic precautions are taken, this danger is averted.

Too many practitioners are careless in this matter. In such cases,—but in such cases only,—infection of a more or less serious character may ensue; sore arms, extensive inflammation, illness and suffering may result. The public have a right to remonstrate against such results, because they are unnecessary; but their opposition should be directed where it belongs,—against carelessness by physicians and not against the process itself.

It is not a proper answer by the profession to show that none or few of these cases are fatal. It is not a proper answer to show that in a vast majority of cases of vaccination no serious harm results. It is a fact that a certain small number of cases of infection do result, either because the physician is careless in the operation, or because he does not sufficiently instruct the patient about the after-care. It should be considered as much a disgrace to a physician to have an infected wound follow vaccination as it is to have it follow a surgical operation, for it is equally avoidable. This is the standard that the medical profession should set for itself, and it should free itself through its own efforts from the reproach of carelessness.

I do not wish to exaggerate the importance of this matter of carelessness in vaccination, but it is in reality an active issue between the profession and the public. A certain number of persons have just reason to complain of the results of vaccination, when it has been improperly performed. In their ignorance they attach the blame to the procedure itself, instead of to the carelessness of physicians, where it belongs. We know they are wrong in this, but we do not come out squarely and correct their error. Why? Because we fear for the reputation of the profession.

As a matter of fact the reputation of the whole profession suffers because we thus tacitly shoulder the errors of incompetent practitioners. Most of them have not been properly trained and do not come up to the standards of the profession set by educated physicians. We do not regard such men as properly belonging to the profession. Is it not time to make this fact clear to the people? Shall we go on indefinitely accepting without protest the low standard set by the public, and recognize all practitioners licensed on the present basis as members of the profession?

The reputation of the medical profession is a matter that we all have at heart, and properly so. We would all like to feel that our profession is held in high esteem by the community, but we know that it does not command the respect which it deserves. Is this not our own fault to a considerable extent, and not entirely the fault of the community?

I know I am treading on dangerous ground. I know the argument that it is for the public good that people should have confidence in the ability and wisdom of their physicians, and that anything which tends to shake that confidence is fraught with danger. But the public knows there are poor doctors, as well as good ones. Nothing we can say or do can cover up this very obvious fact, and to ignore it is not creditable to our intelligence. If the public is going to attempt to discriminate between good and bad doctors,—and we must confess they are justified in trying to do this,—are we not foolish if we do not instruct them as to the basis on which such discrimination should be made?

This is indeed a delicate and difficult problem. We may be pardoned if we have been reluctant to undertake its solution, or if we have hesitated because we realized that by injudicious action a bad matter could easily be made worse. But the problem of standards in medical practice,—the proper preparation of physicians before they are allowed to practice on the public,—is of vital importance to the community. It is actually before the public in our laws on medical registration and the recurring propositions to make these laws more strict or more lenient.

It is chiefly through the efforts of the medical profession that such laws have been enacted, and that the remarkable improvement in the standards of medical schools has been brought about in the past ten years. This movement is undertaken for the public good. We are in it, and we cannot keep out. It involves fundamentally the recognition of the fact that there have been, and are, poor practitioners. The medical profession, it seems to me, has no option in this matter,—it must take up with the public the problem of the proper qualifications of practitioners of medicine, or else it must accept the stigma of shirking its duty to the public. This duty may not be easy of performance, it may be disagreeable, it may involve admissions that hurt our self-esteem as members of the medical profession,—nevertheless, we should undertake it if we are to remain true to the high ideals of our profession. It must be undertaken on the high plane of public good, and must be kept free from considerations of personal gain.

Previous to 1894 there was no legal restriction in this state as to who should practice medicine. Any one could legally hold himself out as a practitioner, and the public was left to discriminate through its own experience. Such experience was often bitter, and knowledge of a "doctor's" incompetency was often obtained at the expense of health and even of life. Nevertheless people in general did not recognize the need of reform, and the law which was enacted in June, 1894, was due to the efforts of the medical profesion. This law was not ideal, it did not contain all that the profession knew was desirable, but it was the best that the public would consent to at that time. This is another illustration of the fact that satisfactory legislative action can be obtained only when backed by enlightened public opinion.

Massachusetts was the seventh state to enact a law for the examination and registration of physicians. Such laws now exist in all states, and Massachusetts had the credit then of being one of the leaders in the movement. But the earlier laws were more or less crude and imperfect. All the states that passed medical registration laws earlier than Massachusetts have since amended them in accordance with more advanced ideas on this subject.

Our law has not been amended in any essential feature since it was passed twenty years ago. It is now the oldest law on the subject in the country. In many respects it is a good law, but in other respects it is very unsatisfactory. The lack of change is not so much a tribute to the excellence of the law as it is to the ignorance and prejudice of the people and to the indifference of the medical profession. Thanks to the personal efficiency of the members of our board of registration in medicine, the results nevertheless have been fairly satisfactory,—as good as the average for the country, and in fact better than in some states which have more stringent regulations. It would be safer, however, to have the protection incorporated in the law itself and not so much dependent on the personnel of the board, which may change.

And so it is twenty years ago that the profession embarked on a campaign of establishing standards for medical practice and tacitly acknowledged that there are physicians who ought not to be allowed to practice on the public. The Massachusetts Medical Society has supported this movement from the start. Through its representatives it has from time to time advocated new measures to strengthen the law, and it has opposed measures which would weaken it. While it has succeeded in preventing any weakening of the law, it has met such violent opposition from interested parties, whenever greater stringency was urged, that nothing new has been accomplished.

Why have we not accomplished more? Is it not because we have gone to the legislative halls without a sufficient backing of public opinion? We have been beaten time and again because an active opposition has been shown by a small minority of the people, who are actuated either by selfish personal considerations or by a mistaken idea of what is for the public good. It ought not to be difficult to create a public sentiment in favor of better protection, if we would take the trouble to inform the public as to the actual state of affairs. Ask any individual if he wishes to entrust the health and life of the members of his family to incompetent physicians, and the answer will be an emphatic "No." Any one would readily approve of the general principle that only competent physicians should be allowed to practice medicine. The only difficulty lies in the question as to who shall be adjudged competent.

At present each individual citizen is apt to feel that he is competent to pass judgment on this question, although he knows nothing of standards of medical education. Few have any idea of the advances which medical science has made in the past few decades. They do not realize how much can now be done by the application of modern methods, to recognize conditions of disease more accurately, and to treat these conditions more successfully. They do not realize that a thorough preliminary mental training, a knowledge of the fundamental sciences, and then four years of hard study in a good medical school, are necessary if the student is to master even the fundamentals which would make him a skilful physician. It ought not to be difficult to make people understand these plain facts, if they are presented properly; and they must understand them before they can form an intelligent opinion about medical education. If they once grasp the significance of these facts, they will not be satisfied with a law which obliges the registration board to examine candidates without any restriction whatever as to previous medical training.

People have naturally assumed that the state was giving them adequate protection in this matter. Even the members of the medical profession do not generally realize how far Massachusetts has dropped behind, in comparison with the progress made in other states throughout the Union. It is hard to believe that Massachusetts, with her reputation for intelligence, for leadership in educational matters, and for progressiveness in the protection of her citizens, should be one of the states that gives the least protection to the public in the laws on medical registration,—but it is a fact.

Massachusetts merely requires that an applicant for registration shall furnish satisfactory proof that he has attained the age of twenty-one years and that he is of good moral character. There are no educational requirements whatever. If he fulfils these requirements and pays a fee of twenty dollars, the board must give him an examination, and must give him authority to practice medicine if he passes it. If he fails, he is entitled to re-examination without

charge within one year. By paying fees, he is entitled to further examinations. The examination is the only protection we have against untrained doctors.

There is only one other state, Tennessee, which is on this same low basis of requirements. Besides these two states, there is only one other, Oregon, which does not require that a candidate shall be a graduate of a legally chartered medical school. There are only six states in which the licensing board does not have authority to exclude graduates from schools of which it does not approve. These include Wyoming, Utah, and the District of Columbia. Fine company for the proud commonwealth of Massachusetts!

In thirty-two states the licensing boards are utilizing their authority to refuse recognition to low-grade medical colleges. As a result graduates of these colleges must flock into the other eighteen states, which thus become the dumping-ground for these poorly-trained medical students. (The District of Columbia and Porto Rico make a total of fifty "states" in these statistics).

Do we want to admit practitioners of this type from all over the country? Massachusetts is already overstocked with practitioners of medicine. There is not the slightest reason, as far as the benefit of the public is concerned, why a single poorly prepared physician should now be admitted to practice. It is the height of folly to have laws which invite these men to apply in this state. If it were not known that the examinations, as administered by our registration board, are difficult, they would flock here in very large numbers. Even as it is, 126 who were not graduates were examined in the past five years, and the number coming to this state is increasing. This number was 9% of all applicants examined in this period. Forty-eight, or 38%, of these non-graduates passed the examination and were licensed to practice medicine.

The statistics of medical registration for 1913 are still more convincing. In speaking of medical schools, the classification of the American Medical Association will be adopted. Those in Class A plus and Class A will be considered desirable, and those in Classes B and C will be considered poor, or low-grade schools. In 1913, of all applicants examined in Massachusetts,

45% were graduates of desirable schools in Massachusetts
25% were graduates of desirable schools outside of the state.
13.3% were graduates of poor medical schools
16.7% were non-graduates

100.0%

Thirty per cent. of the applicants, therefore, had had an inadequate training. Moreover, while 3.9% of all graduates examined in the country came to Massachusetts, 19.1% of all non-graduates were examined in this state. The relative proportion of non-graduates coming is, therefore, five times as great as of graduates.

Our only protection against poorly-trained practitioners lies in the state board examinations. It is a tribute to the members of our board of registration that, with so poor a law, the percentage of rejections is practically the same as for the country at large. But is the protection of this examination sufficient? It is generally recognized that a student can be coached for such examinations, and that there are physicians and cramming schools that make a business of such preparation. Candidates of this type do pass the examinations in Massachusetts, and in considerable numbers. Figures will be given later.

The examination is a weapon of defense, but alone it is an inadequate one. It is as if our board were equipped with muzzle-loading rifles, while the boards in most states use modern breech-loaders. Granted that the members of our board are sharp shooters and can do fairly effective work with muzzle-loading rifles, would they not do better work with modern weapons? Would our citizens rest satisfied if they knew that soldiers who would defend them from a foreign foe had only old-fashioned muskets? Would they be satisfied if they actually realized that the board of registration does not have modern, approved weapons of defense against the invasion of poorly-prepared candidates from all over the country.

The attitude of the licensing boards of the country toward medical schools is shown by the following figures. Out of the 107 medical colleges in the country, only

31 receive full recognition in all states.
33 are refused in from 2 to 9 states.
43 are refused in from 10 to 32 states.

The 20 schools in Class B are refused in from 10 to 15 states, with an average of 12.7 states. The 22 schools in Class C are refused in from 17 to 32 states, with an average of 30.2 states. None of these can be refused in Massachusetts under the present law.

The extent of the menace of poorly-trained candidates, and the fact that large numbers of these succeed in passing state boards is shown by the following figures. During 1913, the number of such applicants examined throughout the country was 2784,—43% of all those examined. Of these 1974, or 71%, passed the state board examinations and were licensed to practice medicine. They constituted 38% of all who passed. The reason why so large a percentage were successful is that these untrained men select the states in which the protection is least effective.

The figures in detail are as follows:—

	Examined.	Passed.
Graduates from schools in Class B (19 schools)	884	700
Graduates from schools in Class C (21 schools)	821	580
Total from schools in Classes B and C	1705	1280

Graduates from miscellaneous schools (Not A plus, or A)	698	466
Graduates from Canadian schools (Grades B and C)	41	25
Graduates from foreign schools (47.2% failures)	89	47
Non-graduates	251	156
Total	2784	1974

The statistics for Massachusetts show not only that we have a relatively large number of such applicants, but that our examinations do not make an effective barrier against them. Eighty-six, or 30%, of all applicants belonged to the group of poorly-trained candidates. Of these, 35, or 41%, passed the examinations. These constituted almost exactly one-sixth (16.3%) of all who passed the examinations. Let me repeat the statement that Massachusetts is overstocked with practitioners and we do not need a single one of these poorly-trained men.

For the proper protection of our citizens, we need to have our registration laws strengthened. Candidates for examination should have a degree in medicine from an approved medical school. The board of registration should be given power to establish standards of medical education, and to recognize only the degrees of schools which it approves. Accepted candidates should be required to pass a thorough written and practical examination.

Few of our citizens would be satisfied with less, if they understood the facts. Let us hope that an aroused public sentiment will demand such protection in the near future. Let us hope that Massachusetts will soon follow the example of Pennsylvania and demand in addition a year of training in an approved hospital. It is only common sense to require this amount of practical experience with sickness. It is better for the community that this training should be gained at the hospital, under the supervision and guidance of the hospital staff, than that it should be obtained, without that supervision, by experimenting alone on the public after one is licensed to practice.

I have cited four important health problems which have recently been under consideration, the decision of which rests with the representatives of the people. They are the policy of the state as to its board of health, the problem of clean milk, vaccination, and the standards for the practice of medicine. This does not exhaust the list of important measures of this character, but these illustrative examples show the importance of the health problems which come before the legislature for decision. They should, of course, be decided on the basis of the greatest benefit for the community as a whole, but unfortunately they are often decided in accordance with the clamor from a very small minority of interested persons, or in accordance with political expediency.

The remedy for this condition of affairs is for the people to demand their rights in health legislation. The legislature would not dare to oppose a general demand of this character, but no such demand will come as long as the people are so ignorant that they do not understand these problems and therefore do not realize that their welfare is at stake. They must be educated so that they will understand the situation, and no body of men is as well qualified to instruct them as the medical profession is.

I have already pointed out that the medical profession has done a great deal for the public in this direction. It is one of the honors of the profession that it has always given fully of its wisdom for the prevention of disease, and for the preservation of health, notwithstanding the fact that its members get their livelihood by treating the very conditions they are trying to prevent. Social service of this type has been assuming new forms, to meet new conditions that have arisen in recent years; and the systematic, direct instruction of the public in health matters seems to be a form which our service to the community must necessarily take in the immediate future.

One reason why this movement has not gained more headway is the magnitude of the task. We must recognize also that such work by the medical profession is performed without financial return, and that there is a practical limit to the amount of such a work a physician can perform. We cannot speak too highly of the generous service given by those representatives of our society who have been active in this work, as members of our committees. No criticism attaches to them, but the same cannot be said of the members of the society in general. With few exceptions they have been indifferent, or have been unwilling to make personal sacrifices. Unless our committees have the active support of a large number of the members of our society they cannot do any better than they have in the past, and they cannot undertake this new problem of education with any assurance of success.

That it is feasible for our society to carry out educational work of this character was demonstrated a few years ago by the excellent work in a campaign of education on the subject of tuberculosis, under the leadership of the late Dr. Arthur T. Cabot. This work was in charge of a central committee, and was carried on through individuals, or committees of our members, in all parts of the state. The success of this work led to the creation three years ago of a standing committee on public health, which could deal with such problems on a broader basis. The by-laws define the duties of this committee as follows: "The committee shall consider measures for the improvement of the public health, and shall perfect plans for educating the profession and the lay members of the community in the special subdivisions of this department of medicine." Our society is therefore on record in favor of the education of the public in health matters, we have the necessary machinery, and

all we need is the general coöperation of our members.

Such an educational campaign, however, does not belong to our society alone. All agencies which can help should coöperate in the movement, but there must be some central organization which shall direct and coördinate the work of these various agencies, if the best results are to be obtained. The problems are essentially medical in character and should have medical supervision. One reason why our standing committee on public health can advantageously undertake this general supervision is that it would better coördinate such work in our state with the educational work of the American Medical Association, which is nation-wide in its scope. This work on the part of the American Medical Association is under the charge of its council on health and public instruction. The council would naturally turn to a committee of The Massachusetts Medical Society, a constituent member of the association, for help in any work which it wished to carry on in this state. On the other hand, our society has the right to call upon the council for aid in any work which we may wish to undertake. Thus the united resources of the national and the state medical organizations can be brought to bear on this problem.

The council on health and public instruction has already performed valuable service in the instruction of the public. It has prepared pamphlets on a number of medical and health topics, which are especially designed for the public and can be distributed free or at a nominal cost. It has organized a lecture bureau, through which it can furnish to lay organizations various kinds of lecturers who stand in the front ranks of our profession. It has placed itself in touch with the lay press and furnishes interesting and reliable medical items for publication. Through this arrangement a weekly bulletin of such matter is sent to 5000 newspapers throughout the country.

These are but a few of the useful measures of this sort that the council has inaugurated in the past few years. In all of this work it asks the coöperation of the state societies, and our committee on public health will give such coöperation. In its last annual report the committee stated further that it was coöperating with other committees of our society and also with other organizations interested in public health.

The help of these various organizations will make it more practicable to carry out any systematic scheme of public education that may be inaugurated. Without such help the medical profession could hardly hope for success, because of the magnitude of the undertaking. On the other hand medical guidance should be of great value to the lay organizations, both in making their work more effective and in avoiding mistakes which a knowledge of medicine might prevent.

Much of this work of instructing the public in health matters would properly belong to the state board of health. That body will undoubtedly develop this side of their work. In the meantime, until the public better appreciates the value of such a plan and the legislature is willing to furnish the necessary funds, the initiative and the preliminary work must fall on the medical profession and on other public spirited individuals and organizations.

In any campaign of public education that we may undertake, the lecture platform and the public press must be utilized. It was not many years ago that the general sentiment of reputable physicians was against the use of either of these means of reaching the public. They were freely used by quacks and the patent-medicine makers. Reputable physicians did not wish to appear in such company, and they shrank from the possibility that efforts to reach the public through these channels might be interpreted as self-advertising. Times have changed. A physician today does not hesitate to lecture to lay audiences on subjects of general public interest. It is no longer considered bad form to have one's name appear in the newspaper in connection with medical and health problems. Nevertheless, many physicians shrink from publicity of this sort.

The hearty coöperation of the medical profession and the press in matters pertaining to the public health is very much to be desired. No single factor is more powerful than the newspaper in moulding public opinion, and in no other practicable way can we reach so large an audience as through the press. Such coöperation is easier today than it would have been a few years ago, because the better papers are now essentially free from the advertisements of quacks and patent medicines, and the press has recognized that the public is interested in legitimate medical information. Many papers have medical departments; and special articles on health topics, by laymen and physicians, are not uncommon. But such information is rarely contributed by the leading authorities in medicine, and the papers are still seeking what is novel, startling, or sensational, rather than information that is beneficial for the people.

Many physicians have been deterred from giving legitimate information to the press because, through mistakes due to ignorance, or through misrepresentation and exaggeration, a garbled statement has appeared in print which the author was ashamed to acknowledge. The editors and reporters who handle medical matters should be sufficiently well informed to give an accurate and intelligent account of such information as is furnished. Some papers appreciate sufficiently the importance of having such information reliable to have a physician on the editorial staff, who will censor all material of this sort. It would undoubtedly be a satisfaction to the press in general to know that the organized profession is ready to coöperate and that the papers could turn to our representatives

for reliable information. In turn, the papers should be willing to print such information as our committees wish to place before the public in a campaign of education. Such coöperation between the profession and the press must be handled judiciously, or else the profession will lose and not gain in public estimation. It is not desirable that every medical man who seeks notoriety should be allowed to rush into print as a representative of the profession. Self-advertising must be guarded against as much as ever. The press should recognize in this work an opportunity to perform a most important public service.

I wish finally to say a few words about health education in our schools. This subject has in the past received scant attention in the schools, and this is an important reason why people who are well-informed on other subjects are often ignorant about medical matters. Not only has the instruction in the schools been very deficient, but it has been difficult for those who were interested to get information from reliable sources elsewhere. Here is another new field for medical men of the highest type,—the preparation of popular books and treatises on medical subjects that have a general interest.

A reasonable knowledge about the body and its functions, and about hygiene and the proper mode of life to maintain health, should be an important aim in everybody's education. This study of hygiene and health should have its proper place in the school curriculum, yet no subject of anything like the same importance has been so much neglected. The result has been that people have grown up essentially ignorant of the fundamental medical truths. They have gathered information where they could, and have been ready to accept any statements that have appeared in books, magazines, or the daily papers. Unable to weigh the evidence, through lack of knowledge, they have accepted all kinds of statements with a strange credulity. They have believed the statements of the quack and the extravagant claims of the advertiser of patent medicines fully as readily as the statements of an educated and disinterested physician. Thus much misinformation has resulted from this lack of education.

Since 1885 the laws of Massachusetts have required that physiology and hygiene should be included in the list of subjects taught in the public schools. The law especially mentioned that instruction should be given as to the effects of alcoholic drinks, stimulants and narcotics on the human system. The law owed its origin to the temperance enthusiasts in a campaign against alcohol and tobacco.

This was reflected in the early text-books, whose excellence seems to have been measured chiefly by the degree to which they exaggerated the ill effects of these substances. The general problems of health received scant attention. Although the present system of health instruction, —excellent in many places,—has resulted from this movement, it is a question whether the large problem of general instruction in health was not retarded a number of years because of the narrow, prejudiced way in which it started. This has its lesson in considering our problem today. Better results would follow if the medical profession originated or directed movements of this sort, instead of leaving them to lay enthusiasts. There are problems of health education today, advocated by men and women with the best intentions, which will be adopted in an extreme and one-sided form unless the medical profession wakes up and contributes the knowledge, judgment, and breadth of view which it alone can give. Among the most important of these is sex-education and social hygiene. This subject is definitely before the community; it has attracted much attention, the interest of the public is deeper than mere morbid curiosity, and some solution of the problem must be found.

The medical profession as a whole has been strangely indifferent in this matter of sex education. Recognizing the many objections to the public agitation of this subject, we were perhaps justified in keeping out of the discussion when the subject first came up, in the hope that the excitement might quickly subside. But it has not subsided and is not likely to. We do not adequately meet the situation by deploring the fact that the agitation will not down, nor by criticizing the movements and its advocates as "hysterical." We should turn our superior knowledge and judgment toward a sane, constructive solution of this problem, and we should not be satisfied merely with destructive criticism. It may be a disagreeable job and we may not relish undertaking it, but it is none the less our duty to contribute our advice and influence toward a right solution.

Returning to the subject of instruction in physiology and hygiene in the public schools, as a means of educating the public,—from the limited scope of the early teaching the instruction has broadened out so that now more or less satisfactory instruction is given. Conditions vary in different places in the state. While in some places such instruction is but a poor fulfilment of the lowest requirement of the law, I am glad to say that the system of instruction in the Boston schools is unusually good, and is probably unsurpassed in the country.

Few of us realize how excellent this system is. It embraces not only instruction in phyisology and hygiene, but physical training, and the supervision of the health of the pupils. In 1885 the school committee appointed a special instructor in physiology and hygiene to carry out the mandate of the law recently enacted for instruction in those subjects. In 1894 the Boston board of health inaugurated the system of medical inspectors of schools. But the most important step of all was the creation of the department of school hygiene in 1907. Dr. Thomas F. Harrington, a member of our so-

ciety, was appointed director of this department at its beginning and has held this position ever since. To his ability and energy the success of this work is chiefly due. A most important feature has been the appointment of school nurses. The supervision of the health of the pupils would be still more effective if the school physicians were transferred from the charge of the board of health to the department of hygiene under the school committee. This would make a compact organization, with the work more effective because controlled and directed by one head.

The aim of the department of school hygiene is to care for the health of the pupils, to develop healthy bodies, and to teach preventive medicine in its simpler forms in a practical way. The department has charge of the teachers and instruction in these subjects throughout the schools of all grades. Athletic training and sports are also included. Healthy morals are taught in an unobtrusive way. The pupils learn that a pure mind should go with a healthy body. There are no set lectures on sex hygiene, but the subject is taken up incidentally with small groups or with individuals in connection with physical training. This method is free from many of the objections to formal instruction and seems to be fully as effective. The department supervises the training of those in the normal school who intend to teach physical training, and is thus developing a more and more effective corps of special teachers. The practical application of the teaching in hygiene is insisted on in the schools, both as a practical demonstration of the teaching and for the health of the pupils.

This brief description of this system does it scant justice, but it shows that in Boston at least the problem of instructing the coming generation of citizens in health matters is receiving satisfactory attention.

A most excellent system has also been developed for extending the instruction in health matters beyond the limits of the schools. In each district a home and school association is formed, composed of the teachers and such parents as are willing to join. Monthly meetings are held, and through lectures and discussion the effort is made to teach the parents what their children are learning at school in these subjects. From the school point of view this is very useful because it secures the coöperation of the home in teaching the pupils right methods of living. For the community it offers a most desirable means of educating the public.

There are about seventy school districts in Boston. If it were possible to make an association in each district an active centre for disseminating health instruction, an immense benefit would result. This work is already developed to such an extent and has been so successful as to warrant great hopes for its future usefulness. One of the practical ways in which the organized profession can be of great help in the education of the public would be by coöperation with the department of school hygiene of the city of Boston in this work. A sufficient number of lecturers, who can be depended upon, could be furnished easily, and would add much to the effectiveness of this work.

In this brief discussion of a very large subject I have tried to show the importance of health measures to the community, and, by considering a few of the important measures, to show that progress depends upon intelligent public support. Efficiency and conservation are the watchwords of the present day, and the public is just beginning to realize the significance of the enormous waste of human life from preventable diseases. Medical science,—especially the branch of modern sanitary science,—can do a great deal to remedy this condition of affairs; and the public is sane enough to profit by this knowledge, if it only understands the problems. The people must be taught, and it seems incumbent on the medical profession to take the lead in such an educational movement. The Massachusetts Medical Society will not be true to its traditions, if it does not recognize the necessity for greater activity in this direction and does not take the leadership which rightfully belongs to it.

We have considered this problem entirely from the point of view of benefit to the general public. There is, of course, another side to the question,—the economic side for the profession. We often hear comments on our altruistic attitude, as if by endeavoring to eliminate preventable disease we were throwing away our bread and butter. Let us consider this problem for the moment from a purely selfish standpoint. To the extent that this movement is successful, there will of course be fewer cases of infectious diseases for us to take care of. But sanitation cannot go on properly without our help, and a relatively new field of public service opens before us. Many will be employed in preventing diseases instead of trying to cure them.

Nor is the future gloomy for those of us who do not take up sanitation. While there will be less acute disease, there will be plenty of chronic ailments and degenerative changes to occupy our attention, for the human body must deteriorate sooner or later. Furthermore, people will not learn the lesson that prevention is better than cure, as applied to the community, without demanding the same benefit for themselves as individuals. We may in the future direct the health of our patients more than we treat their diseases, but there will be more rather than less for us to do. We do not deserve any pity, for we shall not suffer unless we are so lazy or so unprogressive that we will not adjust ourselves to these changes. Such adjustments should be easy, for the changes can come only gradually, and if we have not sufficient knowledge or cannot learn the things that will enable us to be successful in these new fields of practice, the profession and the community will be better off

without us. An incompetent physician has no moral right to consideration at the expense of the public.

These changes only determine the direction in which we must develop. Progress is the life of the medical profession, and it should not be considered a hardship if we are obliged to be progressive. One thing is certain,—the physician of the future must be better educated and more capable than in the past. He must have a more thorough knowledge of the bodily functions, he must make a more careful analysis of the conditions of disease, and he must adapt his treatment more accurately to meet these conditions in individual cases. The mere treatment of symptoms, or the routine administration of drugs according to the name of a disease, does not meet the requirements of medical science today.

Medicine is progressing along the lines of a deeper study and a better understanding of physiology, and a better knowledge of the complex chemical and physical processes in the body. Therapeutics is placing less reliance on drug treatment and is laying greater emphasis on the regulation of bodily functions by physical measures. The prevention of disease by right living will be as important a feature of medicine in the future as the cure of disease has been in the past.

If, then, we keep pace with the demands of modern medicine, we shall profit rather than lose, by the education of the public to an appreciation of the benefits that medical science can offer. Such knowledge will lead to a higher respect for the profession at large and a better appreciation of our efforts as individuals. Therefore, from a selfish point of view as well as from our duty to the community, we should rouse ourselves—both as a society and as individuals—to make this educational movement a success.

PRESIDENTIAL ADDRESS OF DR. WALTER P. BOWERS, OF CLINTON, AT THE ANNUAL DINNER OF THE MASSACHUSETTS MEDICAL SOCIETY, JUNE 10, 1914.

IT is customary for your president to make a few remarks before calling on the speakers who are to entertain you, and to review some of the important activities of the year, and to make suggstions.

In our Society there are two great divisions of labor; first, the work of the scientific sections, devoted to a study and elucidation of the important questions pertaining to the prevention of disease and the practice of healing; the other, necessary in order to coördinate effort, with a view to maintain efficiency and influence, which deals with the ways and means and the organization and management of the Society as a working machine.

The social functions of our Society are only incidental and subordinate.

Many of you, finding so much that is interesting in the study and practice of medicine, leave the consideration of the executive affairs of the Society almost entirely to those who have been elected to the several offices, and while the work of the sections has shown that those with scientific minds and training are doing most creditable work, it is fair to urge upon you, the responsibility of each one also to familiarize himself with the work of your officers to the end that we may weld the component parts into the most effective organization possible.

There are many plans under way which call for careful consideration in order that only those methods may be adopted which have been perfected and made to be instrumentalities for better conditions. These have been devised by thoughtful members with the hope of making this society more potent as an agent in promoting your usefulness and consequently the welfare of the state.

During the past year you have slightly changed your financial system so that now the expenditure of your funds is supervised and endorsed first by the committee on membership and finance, and then appropriations made by the council; not as heretofore, when it was the custom for officers and committees to spend money without any understanding of the proportionate demands of different departments.

The fiscal year has been changed so as to bring our affairs into harmony with those of the American Medical Association. Your by-laws have been revised and published for the twentieth time since they were first printed in 1804, so that you see the society is trying to adapt itself to changing conditions from time to time. We began this year with a membership of three thousand four hundred and thirty-two, and have lost by death thirty-nine, and in various other ways, sixty-five, but the admissions bring the enrollment up to three thousand five hundred and four. This is more than sixty-one per cent. of the legal practitioners of medicine in this state. But there are still a considerable number of men up to our own ethical standards who are not affiliated with us, and every district society should seek out these men and urge upon them the desirability of uniting with us to our mutual advantage.

Your committees have been actively at work along the lines of their several functions, and have reported progress. These reports have been accepted in most instances without much discussion or modification,—a testimonial to the high quality of the work done.

While some of your committees are able to manage and complete work entrusted to them, without requiring your coöperation or assistance, and thereby have relieved you of responsibility, one of the hardest working committees,

has often met with discouraging and baffling opposition. Reference is made to the committee on state and national legislation, which has opposed or endorsed bills before legislative committees as might seem best, and later disseminated literature to the auxiliary committee on legislation, with the purpose of reaching the legislators and instructing them in the advantages or disadvantages of the proposed measures. The results in some instances indicate either that your committee has not the ability to arouse the reasoning faculties of the average legislator, or else that these faculties are not in a highly developed state. There is one other possible explanation, that the field has been preëmpted in advance, and that with people of certain intellectual status, a change of mind is not to be expected.

This is not as it should be, for the weight of the whole society should be behind measures which concern the health of the people, and for which we are, under our charter, morally responsible, and if the legislature could be convinced of the definite endorsement of measures under consideration, by thirty-five hundred educated physicians, the result might be different.

It is a pleasure to report that it has not been necessary to convene a board of trial, and that your committee on ethics and discipline has not found it necessary to meet more than four times, and the subjects presented have been satisfactorily dealt with.

The progress of the age has made necessary the dealing with a most important and delicate situation, for although, as has been stated, in some ways our state has been remiss, she has, I am proud and happy to say, been in the forefront in some matters, and we may with the greatest pride refer to the Massachusetts law of 1797, which Dr. Kerr, who will later address you, has stated in the Public Health Bulletin No. 54, was "the first definite step taken in the direction of providing health organization." He further states that "The language of this statute was copied all over the land when the necessity for such bodies was realized."

This early provision was, however, for local boards, but when the necessity for *state* boards of health was recognized, Massachusetts again became the leader, and in 1869 created the first *state* board of health. And as it was in the pioneer stage, so throughout its development, Massachusetts was and is, in the front rank of health organizations. We take pride in its history; we have felt secure under its administration, and we shall never cease to be grateful for the men whose unselfish devotion has made for it and for the state, a glorious monument. And yet as the world moves, and as other organizations have been created, taking into consideration the conditions existing and likely to develop here, the question has arisen whether it might not be possible to create a department of health which would serve the state efficiently and yet be strong, and in the exercise of its strength, have an unhampered independence in the service of the Commonwealth.

Like all great effective organizations our board of health has been attacked and threats looking to its disorganization or damaging reconstruction, have been made.

Rather than wait for its enemies to act, members of your society have been at work under the advice and direction of the Governor, preparing a bill which, if enacted into law, it is earnestly hoped will be your agent for the preservation of health, and therefore the greatest prosperity.

So far as one can understand the underlying currents of opposition to this measure, it seems that the motives behind this movement for a reorganization are not understood, and possible weaknesses inherent in the product of human minds have been magnified and undue suspicions have been engendered as to the possibilities of degrading or objectionable political advantages which might be worked out under the operation of this department.

When you realize that the Governor has availed himself of the services of Assistant Surgeon-General Dr. J. W. Kerr, representing the United States public health service, has encouraged the study of this subject by many, that he has never refused to accept suggestions, and when shown to be of value, to incorporate them in the bill, and has given evidence of an appreciation of the great responsibility in advocating this measure, all such arguments seem futile.

A little later you will have the opportunity of hearing from that Governor, who has said that the health of the people is the most important problem of the day, and if a study of this proposed health legislation brings your approval, it is hoped that you will render all the assistance you can bring to bear to have it adopted.

Among duties of medical men and organizations, the responsibility for the standing of and the services rendered by hospitals, is tremendous. Almost all the leading members of our profession have had some relation to some hospital, and all practitioners of medicine have a direct interest in these institutions, either by reason of definite affiliation or because of the constant necessity of sending patients where better service can be rendered.

We are more dependent upon hospitals than upon any other agency for the maintenance of standards and the dissemination of knowledge relating to medical work. As students we learn our lessons either from and through hospitals, or from teachers who were themselves taught in hospitals. As practitioners, if connected with hospitals, we are constantly learning the lessons taught by our confreres and our patients. If not actively connected with hospitals, some of our patients go there from time to time, and we learn from their experiences and from the men who take care of them what advanced effective medicine is accomplishing.

Believing this, it must be conceded that we

individually and collectively should not only derive all we can from hospitals, but should in return do all that we can to assist in the development of that study of these institutions and their methods which will elevate the good and eliminate the bad hospitals.

First, there should be recognized any inherent weakness in hospital schemes and organization; and second, the quality of work done in each hospital should be estimated by disinterested men, competent to decide, so that none of these should be exploited under uncontested false statements of results. Communities are complacent in accepting results of hospital work, and it has been suggested that some incompetent and indolent men are shielded behind hospital organizations. The amount of hospital work done in our state is realized only by those who are familiar with actual facts. Omitting the insane, those connected with correctional institutions and directly under state control, there are 14,137 hospital beds now maintained in this state, and there must be over one hundred and fifty thousand occupants of these beds annually, and yet these institutions, assuming the greatest responsibilities, are independent to a great extent, of comparative study and coördinate supervision.

Many hospitals are of doubtful value, or even worse, and the time must come when every institution of this kind must justify its existence by demonstrating its scientific and financial results.

This state will be slow to attempt any standardization of them, but this society, through a committee, can do a tremendous amount of good by an analysis of the work done by hospitals. I am glad to report the organization of such a committee. The day for blind acceptance of results of hospital work has now passed, and I call to your attention the ringing words which are being spoken with the purpose of awakening you and this society to its responsibilities, and I congratulate you that you are soon to listen to a master in the art of expression who will deal with this subject, and I earnestly urge you to remain until the last word has been spoken.

Coincident with other states, about twenty years ago Massachusetts made laws requiring the registration of physicians, with the purpose of protecting the people from the incompetent and the pretender.

That law has been under trial long enough to warrant a reference to the results of its operation.

It has accomplished much good in ridding the state of the ignorant and fraudulent quacks; it has made the punishment of the criminal doctor more easy; it has elevated the standards of some medical schools. But even though it has done all this, there are certain inherent defects in this law, and its operation is an annoyance to certain well qualified practitioners. One defect consists in the possibility of the registration of a few who are actually below the theoretical standards established by the board of registration in medicine. This is possible by reason of the insufficient provision in this law, for examinations which would in every instance demonstrate the actual attainments of the applicant. It can be fairly well demonstrated that no well qualified applicant has ever been rejected, and thus is the law best justified. While the average results of the application of this law have been good, it has occasionally happened that a man has been registered who has shown later that he was not fitted for the practice of medicine. How can this be avoided?

If we are to proceed under this law with the likelihood that the state will never appropriate money enough to provide for examinations which would be real tests in every case, and which should cover a period of weeks, as is the English custom, consisting largely of practical demonstrations at the bedside and in the laboratory, there should be at least one amendment, which is the requirement that every applicant should be a graduate of a reputable medical school.

This should be made a vital issue, and the shame of the situation, which puts Massachusetts in the same class with Tennessee and Oregon, two states which also tolerate low standards, ought to lead to a protest so loud and so insistent that the legislature would not keep us in this humiliating position.

Better still, enact a law making your board of registration in medicine a body with power and authority to adopt educational standards and with the right to accept only graduates from approved medical colleges, and also such practitioners of medicine who have done creditable work for a definite time in the communities where they have lived, and who are vouched for by accredited state societies. The situation would thus be relieved of the inherent weaknesses of the present system, and also relieve the state of a considerable expense and the applicants from the payment of more than a nominal fee. The operation of such a law could properly be made a department under the board of health, or the board of education. Every other system is complicated, expensive, and somewhat defective. This is direct, simple, and relieves good men of any annoyance. It would relieve us of that bone of contention known as reciprocity, a scheme so defective that it is not only illogical but unconstitutional, and whose ablest exponents of a few years ago now concede it to be impracticable.

This plan would do more, it would by state inspection and standardization of medical colleges, right a great wrong which is now perpetrated and save a considerable number of honest, worthy, but misguided young people, who are trapped into the expenditure of money and the devotion of years of the best formative period of life by the unfulfilled promises of a local institution which does not have the proper equipment and does not teach scientific medicine in the modern way.

In corroboration of the statement just made the records of the Massachusetts board of registration in medicine, show the following results relative to the school referred to, covering the period of the past five years:—

Of the 135 individual examinations of graduates, 103 were rejected and 32 registered. The average rating of those rejected is 64.8%, of those who passed, the average rating is 76.3%. Further analysis shows that of the graduates examined during the five years, 76% were rejected.

Applying the same analysis to the non-graduate applicants for the same period of time, the results are as follows: 89 individual examinations conducted; 74 rejections and 15 registrations. The average rating of the rejected applicants is 61.1%; the average of those registered, 75.8%. The percentage of non-graduates rejected, is 83.

Is it fair to the youth of our country to allow a medical college to operate whose finished product shows a percentage of 76 unable to meet even the low standards of this state?

If the conditions under which this institution operates were generally known, it might lead to a different state policy, for the Commonwealth, in creating many other kinds of corporations, requires regular and definite annual reports of the condition of such corporations so that the public may be protected.

But Massachusetts allows this "Diploma Mill" to continue. Its standards may be best demonstrated by the published criticism of one of its professors, who is reported in the daily papers to have said within a week, "that this college was below the standard required by the state boards of medical examiners of many states. Outside of Massachusetts this college is almost ostracized."

When in 1831 this society received its charter, it was with the declaration that "health is essentially necessary to the happiness of society." and as the "benefit of medical institutions is universally acknowledged," it was therefore enacted that certain named persons hereby are formed into, constituted, and made a body politic.

Hence it is seen that this society was created not for the benefit of its members, the physicians, but for the promotion of health, and therefore the happiness of society. All medical legislation since has clearly kept this in view, and we as a society must fully appreciate the responsibility which each one assumes when accepting membership. But however faithfully each member of our society has devoted his time and energy to the service of his patients, or to the development of those departments of work or study which interest him, many do not show evidence of practical interest in the general affairs of our profession, nor is there apparent that spirit of coöperation in the different district societies which has led to a concerted effort in promoting the efficiency and influence of the society as an organization.

This evident want of coöperation and the absence of some great stimulating factor which might reach out to every member, helping both in elevating the scientific as well as the executive efficiency of the individual, and through him the district societies, and thus on to this larger organization, has led to the consideration of a scheme which has possibilities of a far-reaching nature. This scheme finds its principal justification in the fact that only a small proportion of our members have supported local medical literature, and therefore have not developed that loyalty to our most representative medical publication,—THE BOSTON MEDICAL AND SURGICAL JOURNAL,—which for many years has been the only really high grade local periodical interested in the affairs of this society.

This plan provides that through an amalgamation of the publications of the Society with those of THE BOSTON MEDICAL AND SURGICAL JOURNAL there shall be created a New England medical publication which shall be furnished to every member of our society, and which will give early and frequent information on all subjects of interest.

This project has been made possible by the generous and public-spirited attitude of the owners of THE BOSTON MEDICAL AND SURGICAL JOURNAL, who are willing to assume a considerable financial burden simply to render this great service to the society. Further, they agree that should this enterprise prove to be a source of income above the expense of maintenance, they will not derive any pecuniary benefit, but that all profit will be devoted to improving the quality and quantity of the JOURNAL, and to a reduction of the cost to this society. Nothing could be fairer or more promising, and the only question has been the financial ability of this society to enter into this partnership.

The probable benefit to our Society seems to be so great that it is felt that we ought to make every possible sacrifice which may lead to a consummation of the plan, and the greater expense over that of our present system of publishing the transactions, would be a good investment and true economy.

It is hoped that the appeal for your support in the way of personal contributions, as well as an assessment of a part of the expense of the annual banquet, will meet with your endorsement.

As we grow, and as opportunities for greater accomplishment are presented, the demand for the expenditure of money becomes more insistent.

You will undoubtedly feel disappointed if the custom of a free annual banquet should be changed, but you should realize that many state societies require the payment of larger annual dues than ours, and if we are to continue the plans designed to make this society more useful, there should be ready acceptance of this financial burden.

Many state societies publish a regular Journal

and a considerable number levy larger annual assessment than is the custom here.

Rhode Island, for instance, charges its members nearly twice as much as Massachusetts, and Dr. Moffitt (your Shattuck Lecturer of last evening) stated that the annual dues in the California state society amount to twelve dollars.

The question should not be, as has sometimes been asked, what do *I* get out of membership in the society, but rather, what more can each one of us do, and if you feel that your money is wisely spent, be ready to accept the blessing which comes with giving.

But time prevents more than a brief allusion to this matter.

I now ask you to turn your attention for a few moments from these matters of practical interest, and to unite with me in an inadequate expression of that feeling of sadness which pervades every large assembly on the occasion of an annual meeting, for our thoughts linger among the memories of those who have worked with and for us, and we can almost hear the echoes of the inspiring words of those who have led us on from one achievement to another and have made for this society an honorable history.

Among the thirty-nine who have gone from us this year, five contributed in a notable degree, not only to local medical affairs, but will be known wherever the history of medicine in Massachusetts is studied, as leaders in the profession.

We are all thinking of Reginald Heber Fitz, Thomas Morgan Rotch, Charles Pickering Putnam, Edwin Bayard Harvey, and Frank Bishop Harrington.

The first, endowed with a mind capable of the quickest perceptions, calm reasoning and logical deductions; the second, with alert appreciation of the great problems relating to the care and preservation of life of the little ones; the third, the ability to realize the needs of the application of known facts to the betterment of existing conditions; the fourth, sacrificing personal interests to devote himself to the service of the state and in that service created the medical practice bill, which under his guidance in the senate, was enacted into law; the fifth, whose death hangs like a shadow over this meeting, a skilful surgeon, a consultant with tact and judgment, whose work made him a personal friend to every patient,—and all five together, prominent and influential in this Society, moved by an unbounded love for the people, devoted their lives to the service of humanity. The results speak for these honored names, and as we recall the lucid, enthusiastic, and inspiring teaching of these men, coupled with personal charm individual with each, we raise our voices in thankful testimony of what they did, both personally and through their followers, for this community.

Their lives have placed a burden of responsibility on their successors.

Coming now to the end of a service which has been full of delightful experience, your president wishes to thank you for the honor conferred, and to wish for the Society a future notable for influence, harmony, and the maintenance of high ideals.

Original Articles.

THE PRESENT STATUS OF THE TREATMENT OF LARYNGEAL TUBERCULOSIS IN THE MASSACHUSETTS STATE SANATORIA.*

By Albert C. Getchell, M.D., Worcester, Mass.

This meeting has been arranged at the suggestion of the Trustees of the Massachusetts Hospitals for Consumptives in order to bring the question of the treatment of laryngeal tuberculosis in the state sanatoria before a body of Massachusetts physicians, first that the profession may know what the sanatoria are doing in this important matter and, second, that the trustees may have the benefit of the criticism of the work.

There are four state sanatoria in Massachusetts, located at Rutland, North Reading, Lakeville and Westfield. They bear the name of the towns in which they are situated. All are for men and women, except that Westfield has also a ward for 70 children. Rutland has 355 patients, North Reading a little less than 200, Lakeville more than 200, and Westfield about 250. Rutland is reserved for early and favorable cases. The others receive patients in all stages of the disease, the far advanced cases preponderating. Rutland has three resident physicians besides the superintendent; the others have two each. With more or less supervision by the superintendents, patients at all of the sanatoria are assigned to the assistant physicians who make and record all examinations and conduct all treatment.

I became trustee of the Rutland Sanatorium in 1898 and soon after asked the opportunity of studying the throats there with the local physicians. I made monthly visits. In 1908 I was made consulting laryngologist officially, but this made no change in the work. The monthly clinics have been held as before. When the Westfield Sanatorium was opened I did similar work there, seeing the throat cases with the physicians when I visited the institution as trustee, on an average about once in two months. Last summer I was made consulting laryngologist to the sanatoria at North Reading, Lakeville and Westfield. I visit all the sanatoria whenever I am asked to in special cases but also, in any event, at stated times, Rutland once every month

* Read at a meeting of the New England Otological and Laryngological Society, March 24, 1914.

and the other three, once every four months.

The most important lesson that the experience with laryngeal tuberculosis in the sanatoria has taught us is that it is a part of a general disease. I have never seen tuberculosis of the larynx when there had not been pre-existing disease of the lungs. If such ever happens it must be very rare. Successful treatment of the disease requires that the physician fully appreciates this relationship and that when he sees in a mirror a tubercular larynx, he at the same time can visualize, as it were, the pulmonary condition and that general state of the body which we express as well as we can by the term "resistance." If, through the limitation of his specialty, he cannot himself obtain this knowledge, he should not institute treatment until the patient has had a complete physical examination and he is in possession of all the facts relating to him, and then his treatment should be based upon the opinion of the internist as to its advisability as to time and character.

Treatment of tuberculosis of the larynx may be direct or indirect. By the direct method is meant the application of agents, medical or surgical, to the diseased laryngeal tissues. By the indirect method we endeavor to put the general system in the best possible condition in order that the body itself by the increased efficiency of its metabolism may bring about a cure of the disease in the larynx. There may be a combination of these two methods. But whichever method is employed one is as definite and active as the other. One would not say that a physician who carried his patient successfully through typhoid fever, without drugs, did not actively treat his patient.

The advent of tuberculosis of the larynx is always a matter of serious moment. Commonly it occurs when the system is fighting a losing battle with the disease. It is a signal for renewed care and application in the treatment of the patient. But, to continue our military figure, we should be careful not to train our batteries against our own side. The sufferer needs all the vital power that his organism can muster against the disease; the fatigue and irritation of local interference may divert these powers just enough to lose the battle. At this time a masterful non-interference may mean the difference between success and failure and it is the mark of the resolute and resourceful man that he knows when to withhold his hand and can do it.

In order to formulate our ideas of treatment gained from a study of the work at the sanatoria I would divide the cases into three classes:—

1. Those cases coming on in the course of actively progressive pulmonary disease.

2. Those cases of a more or less chronic type associated with the cessation of active pulmonary disease, or a slowly progressive disease of the lungs, without fever.

3. Those cases in which there is rapid and more or less extensive disease of the laryngeal tissues as well as of the epiglottis, associated usually with rapidly progressive and early fatal disease of the lungs.

1. Cases of the first class objectively are characterized by hoarseness and pain, although either or both of these symptoms may be absent. The appearance of the larynx is that of limited involvement: an unilateral redness of a cord with no thickening, roughness of the inner border of one or both cords with color like cooked sago, indicating deposit of tubercle, and later when these tubercles break down, ulcerations, infiltration of one ventricular band or of one arytenoid. Involvement of the epiglottis is not common at this time, but it may happen, showing itself by limited infiltration or ulceration. (It should be noted that superficial ulceration of the epiglottis sometimes occurs in the course of pulmonary disease which is not tuberculous.)

Successful treatment of a case of this kind demands on the part of the physician not only manual skill in the application of remedies, but sound judgment and definiteness of purpose, and, on the part of the patient, a willingness to coöperate in a long period of treatment the details and irksomeness of which will test the stoutest resolution.

The tripod upon which, up to this time, the treatment of pulmonary tuberculosis rests is fresh air, proper feeding and carefully regulated life. But these agents are not used to the exclusion of others such as suitable catharsis, digestive therapeutics, the proper use of sedatives, operative treatment of pleurisy, the use of tuberculin and of artificial pneumothorax, and so on. So, in the treatment of tuberculosis of the larynx, aside from these general measures, local measures also have their place, such as menthol inhalations, cleansing solutions, sedative solutions and powders, silver nitrate, argyrol and formalin, and intratracheal injections.

The advent of tuberculosis of the larynx is always a matter of serious moment, but it does not necessarily imply a fatal issue. We have seen such cases get well. In these fortunate instances the cure of the larynx has gone along with improvement in general condition. In my inspections of a larynx month after month I have been struck with the fact that my opinion of the larynx looking better or worse was usually in accord with the statement of the local physician that the general condition was better or worse. The principle of treatment, therefore, is to sustain and fortify the general metabolism of the body, and one should be very careful not to increase the already too heavy load by ill-advised local interference. As rest of the body is often of prime importance in the treatment of the lung disease, so rest of the larynx by absolute silence for a considerable period of time is of great importance in treatment of the local disease. The kind of local treatment to be used should be selected with great care, always subordinating it to these larger principles of general scope.

2. There is a wide difference of opinion as to the treatment of cases I have classified under Class 2. Therefore it will be well to consider the matter somewhat in detail.

The lesions are discrete. There may be infiltration or ulceration of one cord, perhaps of both, or localized ulcerations in other parts of the larynx. While the cords are not involved, one ventricualr band may be infiltrated or both. Granulomata are not uncommon, most often at the posterior commissure; or they may be present in other parts of the larynx. There may be an infiltrated or ulcerated epiglottis and infiltrated arytenoid, although these latter conditions are more uncommon. Many of these lesions are slow in their progress and are not attended with rapidly progressing disease of the lungs; hence the results of different methods of treatment are so deceptive. Sometimes these lesions heal without any local treatment and others, like granulomata, if left alone, cause no trouble but, if removed the subsequent satisfactory condition of the patient is attributed to the treatment. One is, therefore, in doubt as to how far or how actively to interfere by local treatment. Here, as in cases of the first class, the same underlying principle prevails.

The laryngologist must, as he sees the larynx, also visualize the whole system and before he begins treatment have a clear conception of the pulmonary condition and the fund of resistance of the patient.

Tuberculosis and syphilis have many features in common. As one would not interfere actively with a syphilitic larynx without first taking into careful consideration the systemic condition, so one will not institute treatment of a tubercular larynx without the same careful outlook.

In tubercular disease we must not over-estimate the importance of physical signs heard in the lungs or seen in the larynx. It is a familiar clinical fact that physical signs may persist in the chest of a tubercular person and yet he may be in good health. As an instance, take a case that has been under my care for nine years. He is a returned Saranac patient. During this time he has had râles and other local signs, slight hemorrhages and bacilli in his sputum, yet he has been in good health and at work most of the time. So, a larynx may remain damaged but the person be in good health. For instance, a man who has been at my house for work at times, now several years, was rejected at Rutland as too advanced, but he got himself well and has remained well and at work. He is very hoarse and has a bad-looking larynx.

Pulmonary tuberculosis is a very serious disease, especially when associated with laryngeal tuberculosis and the victim of it is fortunate if he can preserve or regain his health so as to be able to work. Regular observation of laryngeal cases has taught us that the laryngeal condition becomes better or worse as the pulmonary condition grows better or worse. Our local measures of treatment, therefore, should always be conditioned upon general conditions and they should be carefully weighed so that if they do no good, at least they shall do no harm. I have seen tubercular larynxes get well without any local treatment. Thus I have seen ulcers of the cord heal, infiltrated arytenoids subside and get well, granuloma in the posterior commissure disappear, infiltrated, ulcerated epiglottis heal. Here we see a similarity between tuberculosis and syphilis of the larynx. But there is this important difference: while the infecting agency in syphilis invades different parts of the body through the blood or lymphatic systems, the infecting agency of tuberculosis also passes over and rests on the surface of the larynx, and therefore local treatment of the larynx may be necessary, not only to keep the larynx clean but to increase the resistance of the laryngeal tissues as much as possible to an infecting agent.

In the treatment of tubercular laryngitis of this second class then our experience teaches us that first the general condition of the body should be thoroughly studied and that those measures should be employed which will probably help the human biological element struggling against disease. The same agents are to be used locally which were used in cases of the first class. In some ulcerated cases lactic acid also is especially indicated, to be thoroughly rubbed into the ulcerated surface.

The question of removing diseased tissue in a tubercular larynx is by no means a simple problem. We know that tubercular lesions of the larynx get well without any local treatment and we should not forget that the main object of treatment is to restore the patient to health and not merely to clear his larynx of diseased tissue. A patient well and able to work, even with a damaged larynx, is more useful to himself and society than a dead one with a clean larynx.

If a tubercular lesion in the larynx, a growth or other lesion, were a local process like a polyp, a papilloma, a fibrous tumor or even cancer, our duty would be plain. We should remove the growth. But it is not a purely local disease; on the contrary, it is a part of a general disease.

Every case presents these questions: (1) Is the lesion doing any harm? (2) Will its removal do any good? (3) Is the wear and tear of the operation likely to use up the patient's strength and resistance? And (4) Has the operator sufficient skill in laryngeal work to do the operation?

The general problem we are working out in the sanatoria on these lines. We hope that laryngologists will help solve this difficult question. At present, however, experience teaches us that surgical operations on a larynx of this class should be undertaken only by an experienced, skilful operator, after a thorough study of the general condition and prospects of the patient and then not in view of applying a remedy, but of working out a problem.

3. Treatment of tubercular laryngitis of the third class has but one object, namely, relief of

pain or obstruction in the final stages of a fatal illness. The whole larynx may be involved,—arytenoids, ventricular bands, cords,—with infiltration or ulceration, or both. Even the framework of the larynx may be diseased, as a tubercular perichondritis. In addition to these changes in the larynx a not uncommon and painful complication is infiltration and ulceration of the epiglottis and, rarely, the ulceration extends over the pharynx. I have seen all these lesions except perichondritis present at one time in one person. But usually the disease is less general. While pain in this type of larynx is the rule, particularly with involved epiglottis, curiously enough it is not always a symptom.

These cases task the resources of the physician to the utmost. The armamentarium is Dobell's solution, Dobell's with formalin, menthol inhalation, orthoform in powder or lozenge, heroin in spray, morphia, cocaine in tablet triturate 1-10 of a grain laid on the back of the tongue before eating, and powders which combine these agents. Of surgical measures there are deep injections into the region of the superior laryngeal nerve of alcohol or alcohol and eucaine, removal of a diseased epiglottis or arytenoids, and finally, in extreme cases of obstruction, tracheotomy.

In passing I would like to say a word about throat treatment for cough. We have had at Rutland several patients who for a considerable period before application for admission had been treated for cough without examination of the lungs, sometimes for even a year. These treatments had consisted of throat applications, intratracheal injections, removal of tonsils and uvulas and operations on the nose, I am not going into the question of a throat cough. Personally, I never treat a patient for a continued cough without a thorough examination of the lungs, the patient stripped to the waist, for the diseased part may be found at the base of the lungs. Probably these cases drift along because the laryngologist is not used to examining lungs and does not think the condition serious enough to send the patient to another for such examination. In some of these cases careful watching of the pulse and temperature would show that some constitutional trouble was afoot, acting on which hint a complete examination would save valuable time. Or if there were any sputum, an examination of the sputum in exceptional cases would clear up the diagnosis.

Let us now consider the question of the method of caring for throat cases at the sanatoria. Is the present system a good and proper one, or should there be another? In other words, should the resident physicians take care of the throats of their patients or should a laryngologist be brought in for this purpose? Aside from the question of expense and other considerations, I am satisfied that the resident physician can do the work better. From a pretty large experience with tubercular people both outside and inside of the sanatoria, I am definitely of the opinion that the average doctor with reasonable application can in a short time learn more of laryngeal tuberculosis in a sanatorium than can a trained laryngologist in a very much longer time and, unless he have exceptional opportunities, in his whole lifetime outside a sanatorium. Moreover, he can acquire a familiarity with a certain phase of laryngeal tuberculosis that is of the utmost importance in treatment and that can be learned nowhere else. I mean the appearance of a larynx when the tubercular process is just beginning to invade it. those slight changes of motion, color and form which are difficult to describe, but which one constantly observing tubercular patients comes to feel. The appearance of these conditions is of serious import and means an extension of the disease to a dangerous degree. They are signals for redoubling every effort of treatment and putting and keeping the patient under the best possible conditions.

Laryngeal examinations should be as much of the routine in a sanatorium as chest examinations, whether or not there are laryngeal symptoms. From my observations of sanatorium men I am satisfied that they can acquire skill in laryngeal examinations as they can in physical examinations of the chest and that they can manage the technic of ordinary laryngeal treatment. I do not mean that a sanatorium physician should be a nose and throat specialist, but that he should acquire practice and skill in the use of the laryngeal mirror and should become as familiar with the larynx of his patient as he does with the chest. Moreover, I think that they ought to do this and that they should feel that it is a part of their routine work as much as chest or other examination. It is a part of the treatment of consumption that has been neglected. Otherwise I am sure we should not so often find advanced disease in a larynx not before examined. I have thought that in a large institution like Rutland it would be well for one of the physicians to equip himself for throat work and do it all. We once tried the plan. But I am satisfied that it is better for each man to examine and treat his own patients, not only because it is and should be a part of his work, but because he is thereby getting the necessary training for his work. I think, however, that in our sanatoria there should be a more elastic working system whereby the services of the older, more experienced and skilful members of the staff can be available to the younger and less experienced men. Our superintendents are all medical men. They are medical directors of the institutions as well. But their time and energy are so taken up with administrative duties that they cannot do the work of medical men which they are expected to do. They should be freed of many administrative details that now engross their thought and time in order that they may be in fact as well as in theory expert clinicians in all that pertains to their work. Then they would be in a position not only to supervise the work of their subordinates but, natu-

rally, they would lend a hand in difficulties. If this system were perfected and persistently worked out I think it would be more efficient and satisfactory than any method of bringing in an outside laryngologist, except for counsel as to any question of disease of the upper air passages, for operations and, also, for general supervision of the work.

THE FREQUENCY OF LARYNGEAL TUBERCULOSIS IN MASSACHUSETTS.*

BY JOHN B. HAWES, 2d, M.D., BOSTON.

ON the application blanks now in use for admission of patients to the Massachusetts State Sanatoria appears the question, "Has the patient tuberculous laryngitis?" On some of the blanks, but not on all, inquiry is made as to whether or not the patient is hoarse. There are at present about 236 men and women on our waiting list, 165 men, 71 women. Of these 236 patients, there are only 17 who are definitely said to have a tuberculous larynx, although a considerable larger number, over 35, were said to be hoarse. In many cases, probably a large majority, no throat examination was made.

In order to obtain further data on this subject, I have asked our superintendents to let me know how many of the patients now under their care were *said* to have a tuberculous larynx, and how many were actually *found* to have such a complication when examined by the sanatorium physicians. This is shown in the following tables:—

TABLE I.

TABLE SHOWING PATIENTS SAID TO HAVE A TUBERCULOUS LARYNX ON THE APPLICATION BLANK.

No. Reading 190 pts.	Lakeville 232 pts.	Westfield 240 pts.	Rutland 357 pts.	Total 1019 pts.
10	11	9	9	39

Thus, out of 1019 patients, in only 39 was a tuberculous process in the larynx suspected or discovered. The next table shows the number of patients found to have a tuberculous larynx on examination by the sanatorium physicians:—

TABLE II.

TABLE SHOWING PATIENTS FOUND TO HAVE A TUBERCULOUS LARYNX ON EXAMINATION AT THE SANATORIUM.

No. Reading 190 pts.	Lakeville 232 pts.	Westfield 240 pts.	Rutland 357 pts.	Total 1019 pts.
20	22	9	32	83

According to this table, out of 1019 patients, in 83, a tuberculous process in the larynx was found on careful examination. I do not feel inclined to draw any conclusions, or to offer any criticism because of the discrepancy between these two sets of figures. I frankly admit that in my own case, in many instances when the diagnosis of the lung condition is clear, where the course of treatment is obvious, and where there are no throat symptoms, that I do not make a detailed throat examination. That it should be done in every case, I quite agree. Some day, soon I hope, I intend to make it a routine part of my examination.

Continuing with these figures, adding the patients on our waiting list to those now in our sanatoria, we get a grand total of 1245. Of these, there are 100, a minimum figure, who have a tuberculous larynx. This is equal to 8%+ of the whole. The percentage is really a much larger one than this, owing to the fact that a large and constantly increasing number of advanced cases, among whom this complication is apt to occur, are now being cared for in local institutions.

There are today in Massachusetts at least 10,000 consumptives in the advanced or moderately advanced stages. Using 8% as a fair figure, would give 800 cases of tuberculous laryngitis. How to cure these patients, how to prevent the occurrence of this distressing complication, and at least how to alleviate the suffering it causes, is our problem, and one that deserves the utmost consideration.

* Read at a meeting of the New England Otological and Laryngological Society, March 24, 1914.

A REPORT OF TWO HUNDRED AND FORTY-ONE CASES OF LARYNGEAL TUBERCULOSIS TREATED AT THE RUTLAND STATE SANATORIUM.*

BY JAMES A. LYON, M.D., RUTLAND, MASS.

Assistant Superintendent and Physician.

No attempt has been made in this article to theorize or to compare any given form of treatment, favorably or unfavorably, with another. We have merely briefly set forth the character of laryngeal tuberculosis, and the manner in which it is treated at the Rutland State Sanatorium, together with the immediate and subsequent results of that treatment. The material has been gathered from among the 8665 cases discharged from this institution, covering a period of thirteen years, from December, 1899, to December, 1912. The rules of the National Association for the Study and Prevention of Tuberculosis governing the classification of the pulmonary cases have been followed. We have, however, for descriptive purposes, divided them into three separate classes, namely, incipient, moderately advanced, and far advanced. For instance, when a case is mentioned as being in the

* Read at a meeting of the New England Otological and Laryngological Society, March 24, 1914.

moderately advanced stage of his pulmonary disease, and in the incipient stage of his laryngeal disease, we mean that those terms are applied to their respective conditions. If the National Association's classification were followed it would be necessary to classify all of the cases as being in the far-advanced stage, irrespective of the extent of their pulmonary and laryngeal disease.

Of the 241 cases which came under observation, 34, or 14%, were in the incipient stage of their pulmonary disease; 108, or 45%, were moderately advanced; and 99, or 41%, were in the far-advanced stage. Of the above, 73, or 30% were in the incipient stage of their laryngeal disease, 126, or 52%, were moderately advanced; and 42, or 18%, were in the far-advanced stage. Sputum was positive for tubercle bacilli in 224, or 93%, of the cases, and was negative in 17, or 7%. Of the latter, 5 were in the far-advanced stage of their pulmonary disease; the moderately-advanced numbered 7, and the incipient totalled 5. Hemoptysis had occurred at some time during their illness in 142, or 59%, of all the cases.

The following gives an idea of the relative susceptibility of both sexes to infection of the larynx. There were 25, or 10%, between the ages of 15 and 19, and of these 13 were males and 12 were females; 107, or 45%, were between the ages of 20 and 29, and of these 62 were males and 45 were females; 74, or 31%, were between the ages of 30 and 39, and of these 43 were males and 31 were females; 32, or 13%, were between the ages of 40 and 49, and of these 24 were males and 8 were females. There were 3, or 1%, between the ages of 50 and 59, and all of these were males. It will be observed that the female sex is less susceptible than is the male, and it also appears that after the age of fifty the former is practically immune.

The following table shows the respective occupations of the cases dealt with, and gives in varying percentages the degree of infection of a given vocation:—

Group.	Occupation.	No. of Cases.	Male.	Female.
1.	Voice users	1= .4%	1	
2.	Nurses, dentists and physicians	3= 1.3	1	2
3.	No occupation	3= 1.3		3
4.	Salesman and saleswomen	11= 4.5	9	2
5.	Students and teachers.	14= 5.8	10	4
6.	Dusty occupations: Stone cutters and printers	16= 6.7	16	0
7.	Open-air occupations: Laborers, cabmen and teamsters	31=12.9	31	0
8.	Housewives, domestics, and laundresses	46=19	1	45
9.	Clerks, office	35=14.5	19	16
10.	Sedentary occupations: Shoe makers, tailors mill operatives and seamstresses	81=33.6	57	24
	Totals	241=100%	145	96

From a perusal of the foregoing it will be seen that 14% comprise occupations mentioned in groups one to five inclusive, and that the remaining 86% comprise groups six to ten inclusive.

On entrance to the sanatorium each patient is given a thorough physical examination, particular attention being paid to the chest and throat. The character and extent of the lesions are noted, together with the outlined treatment, and are kept as a permanent record. Thereafter these throat examinations and the pulmonary ones are conducted bi-monthly, or oftener if necessary, and treatment given accordingly.

While we have found, quite naturally, that the early or incipient laryngeal lesions are the ones most amenable to treatment, caution is used against over-treatment. As a matter of fact, it is our practice to interfere as little as possible where these conditions are found to be present. The larynx in these cases is examined at least three times a week, and after each examination the parts are thoroughly sprayed with Dobell's solution, to which has been added 20% of rose water. This is followed with a spray of a 10% or 20% solution of argyrol. When tracheitis is present either a steam inhalant of eucalyptol four parts, tincture of benzoin sixty parts, and menthol two parts, is given, or else an intratracheal injection of guaiacol nine parts, eucalyptol two parts, and menthol one part in a saturated solution of iodoform into ether one hundred parts, is prescribed.

The intratracheal injections are admirably suited for soothing the mucous membrane of the trachea, loosening the tenacious mucous attached to it, thereby relieving the cough resulting from attempts to dislodge the particles of mucous attached to the upper portion of the trachea. We have refrained, in these cases, from using the cotton swab with which to apply medication to the larynx, for the obvious reason that it implies traumatism. Unless absolutely necessary, direct application is avoided. Our experience has demonstrated that the less these cases are interfered with the better.

Cases which have progressed beyond the above stage, and which have reached the stage of ulceration and are accompanied by a chronic or slowly progressing pulmonary disease, are handled on the general principles outlined above, with the addition of a more energetic treatment of the laryngeal disease. In these ulcerated cases it is our general practice to anesthetize the larynx with a 4% solution of cocaine, and gently to massage the ulcerated area two or three times a week with formalin on a cotton swab, beginning with a 2% solution and gradually increasing it to 8%. When we find a more active remedy necessary we have discontinued the formalin and substituted Lake's mixture. This mixture consists of lactic acid fifty parts, formalin seven parts, carbolic acid ten parts and water to 100 parts. We have found it expedient, how-

ever, to limit the use of this formula to not more than two or three times a week. Whenever the application of this solution causes considerable pain, undue suffering is obviated by reducing the strength of the lactic acid. The anesthetic power of the carbolic acid, however, usually permits the use of lactic acid in strengths ranging from 50% to 75%. On alternating days we spray the larynx with a 20% solution of argyrol. We also use iodine and vasogen in these ulcerated cases where they show signs of progressing toward healing, or when the ulceration is superficial. The mixture of iodine and vasogen is used in conjunction with argyrol in cases where an active caustic appears to be contraindicated. When tracheitis is discovered in these cases we follow the treatment outlined above for this condition.

The next class of cases with which this report deals includes those patients in whom the pulmonary disease is far advanced and is rapidly progressing. In these cases there is rapid loss of weight, hectic fever, night sweats, marked anemia, severe toxemia, dysphagia and diarrhea. In these there may also be a general infiltration of the epiglottis, arytenoids and aryteni-epiglottidean fold with ulceration. Our treatment in these cases has been for the most part palliative and symptomatic. Alcohol or quinine and urea hydrochloride injections into the superior laryngeal nerve are of value in these cases and, when successfully given, not only immediately relieve the intense pain, but also prevent its recurrence for a prolonged period. We have done this in three cases recently, in two of whom the results were excellent. In order to relieve the almost constant tracheitis present we have deemed it advisable, when the patient's condition is not too weak to permit it, to use intratracheal injections of the formula above stated for this condition. Expectorants are of value in relieving the cough necessary for the expulsion of tenacious sputum. We have frequently employed guaiacol carbonate, ammonium chloride or creosotol with beneficial results.

Steam inhalations in the form of tincture of benzoin compound sixty parts, eucalyptol four parts and menthol two parts are indicated, and their soothing effect upon the mucous membrane frequently lasts from two to four hours. Patients are not allowed to be exposed to cold air for at least one-half hour after each inhalation. Insufflations of orthoform have not proved successful in our hands. Sprays of heroin or cocaine have been found in many cases to relieve pain, and when used one-half hour before feedings allow the patient to take food which would otherwise be refused. Morphine is also given, but on account of its effect on the pulmonary secretions, and because patients of this class readily become addicted to its use and demand large quantities, it is administered only as a last resort.

Particular attention is given to the diet, and the rules laid down for the feeding of consumptives in general are followed. Not infrequently, however, dysphagia is present and the food then must be, of necessity, modified. Where there is mechanical difficulty in swallowing with resulting nasal regurgitation, and its attendant pain with every effort to swallow, both the character and quantity of the food, as well as the manner in which it is administered, require careful consideration. The quantity of a given feeding must be reduced to a minimum and yet possess the highest nutritive value. The food given must not be too hot nor too cold, and it should not be spiced, nor too sour, or otherwise irritating. Thin, liquid food causes more difficulty than semi-solid, or thick liquid foods. Kumiss, junket, milk toast, egg nogg, milk porridge, olive oil, butter, custards, jellies, gelatine, raw beef sandwiches, sweet bread and cornstarch pudding are some foods that are easily taken.

Tuberculin has been administered in a few moderately and far advanced laryngeal cases in which the pulmonary disease was found quiescent, the results of which have not been of much practical value.

Absolute silence is required in all stages of the disease. These patients are instructed to carry on all conversation by writing, or in a soft and low whisper voice. It is surprising how rapidly an infiltrated or ulcerated cord will respond to treatment if the patient can be induced to follow this rule. It is often extremely difficult to get the patients' coöperation in this regard, however, and it is only by firm and yet gentle urging that they can be induced to put it into practice.

Careful consideration is given to the nares, pharynx and mouth, each patient being supplied with an atomizer and Dobell's solution with instructions to spray the above-mentioned parts, as well as the larynx, three or four times a day. In general, it may be said that the success of treatment in these cases will uniformly vary according to the susceptibility of the patient, to the character and extent of the pulmonary disease, and to the faithfulness with which the patient coöperates with his physician.

The following table gives the condition of patients at the time of admission and at the time of discharge in relation to their pulmonary and laryngeal disease.

Of the 241 cases treated, 23 had lesions confined to the epiglottis, arytenoids and arytenoepiglottidean fold; 24 to the arytenoids alone; 99 had lesions limited to the vocal cords; 13 limited to the inter-arytenoid sulcus; 23 to the ventricular bands without serious involvement elsewhere; 29 to the cords and arytenoids 14 to the vocal cords and ventricular bands; and in 16 the location of the lesion was not definitely stated.

The following gives the mortality and subsequent history of the patients discharged.

Twenty-four died in the Sanatorium while under treatment, 49 died within one year after discharge, 24 died within from one to two years, 17 died within from two to three years, 6 died within from three to four years, 5 died within from four to five years, 9 died five or more years after leaving. Of those discharged within five years, 10 are still living. Sixteen are living who were discharged five or more years previously. The dates are unknown when 2 died, and 79 are untraced.

Pulmonary Condition.						Laryngeal Condition.					
		Discharge.						Discharge.			
Admission.		*A	I	U	D	Admission.		*A	I	U	D
Incipient	34=14%	4	19	10	1	Incipient	10		5	5	
						Mod. adv.	20	2	12	5	1
						Far adv.	4			4	
Mod. adv.	108=45%	21	61	22	4	Incipient	35	8	21	4	2
						Mod. adv.	58	5	30	22	1
						Far. adv.	15		7	7	1
Far adv.	99=41%	5	49	25	20	Incipient	28	2	18	5	3
						Mod. adv.	48	3	21	15	9
						Far adv.	23		3	12	8
Total	=241	30	129	57	25	Total	=241	20	117	79	25
				* Arrested.	Improved.				Unimproved.	Died.	

SIGNIFICANCE OF THE ABSENCE OF TRYPSIN IN THE STOMACH IN THE PRESENCE OF ICTERUS.

BY A. EVERETT AUSTIN, M.D., BOSTON,

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MANY years ago Pawlow discovered that when oil was poured into the stomachs of his gastrostomized dogs, in one to two hours an emulsion began to flow from the fistulae which contained pancreatic juice and bile, in other words, duodenal contents which made their way back into the stomach through a relaxed pylorus. Boldyrew and later Volhard seized upon this physiological phenomenon to establish a clinical method of determining by the presence or absence of trypsin whether the functions of the pancreas were normal, impaired or lost. As the action of trypsin was most easily manifested by the often crude methods of the clinic, the presence of this enzyme was taken as a guarantee of the existence of the others in the content removed and proof of the integrity of the pancreas and the persistence of its functions. When this test was employed on patients in large numbers (more than 600 having been reported) it was found that individuals with normal digestions almost invariably showed trypsin in their gastric content, 45 minutes after the oil was taken. Some observers found it in only 70% of their patients but frankly confessed a probable error in their technic, while others, who eliminated all possibilities of error, reached an upper limit of 96% of all cases examined.

Perhaps, at this point, it will be well to speak of the sources of mistakes; if a content is examined directly after its removal trypsin may be found, when later the same content will be found free from it. An explanation of this seeming paradox is found in the well known fact that the ferment is readily destroyed by pepsin and hydrochloric acid. As these conditions, the intermingling of trypsin, pepsin and the acid, are present during the 45 minutes while the oil is in the stomach and we cannot eliminate the pepsin, we must proceed to render the acid innocuous by giving our patient ten minutes before and ten minutes after the oil, a half teaspoonful of calcined magnesium oxide, suspended in a little water or, a procedure I have proved works equally as well, a teaspoonful at the time the oil is taken. When this is done, free hydrochloric acid has never been found by me in the content removed. It is clear that when trypsin is not found in the stomach, we cannot at once declare that the pancreas is diseased even if the technic is followed most rigidly, for when there is pyloric stenosis, neither this ferment nor bile is usually found Furthermore, gastric cancer, when unaccompanied by pyloric narrowing, and pernicious anemia are both accompanied by this absence, possibly due to the fact that they are usually associated with a gastric achylia or, perhaps, the cause of it, and hydrochloric acid is known to provide a stimulus for pancreatic secretion. My attention, however, was attracted to the frequent combination of jaundice and absence of trypsin in the stomach after an oil meal. Whether the loss of the ferment at such a period has any significance, whether it means that a simultaneous obstruction of the choledochus and duct of Wirsung exists or whether a pancreatitis precedes or causes the jaundice are queries we would gladly have answered.

It would be of the greatest aid to have some means by which we might distinguish, early, a

mild cholangitis or catarrhal jaundice,—a simple affair,—from jaundice due to pressure on the common duct by the enlarged, inflamed head of the pancreas and, at first thought, the oil meal would seem to afford a means for this differentiation. Nor is this condition of affairs fanciful, for Oser, by deduction, and Robson, Kehr and Deaver have demonstrated at operation where no stone was found obstructing the common duct that pressure of an enlarged pancreas was sufficient to cause biliary stasis with jaundice, and so slight was the obstacle that with the hand the over-distended gall-bladder could be emptied into the intestine. Furthermore it has been fairly well established that, on account of the peculiar entrance of the pancreatic duct, or at least the main one, to the duodenum, either in common with the choledochus or adjacent to it, a primary inflammation and thickening of the duct of Wirsung may also lead to jaundice by pressure upon its near neighbor. Two observations lead to this deduction; first, it is not uncommon to find bile in the gastric content after the oil meal and no trypsin and, secondly, we may interpret the frequent association of fatty stools and jaundice as due to the lack, not of the bile, which aids absorption, but of the steapsin, which brings about the digestion of fat, and unsplit fat is but scantily absorbed. This would explain, too, the seeming paradox according to the old explanation of the association of stercobilin, an ultimate product of bile pigment and fat in the stool; the mere fact that much of the fat is split is no obstacle to this supposition, because when one gives a nutrient enema containing fat, upon the ejection of the unabsorbed portion much of the fat will be found in the form of fatty acid needles, due, as is explained, to bacterial action.

With the object of attempting to clear up this confusing complex, the oil meal was given to every patient appearing during my service for two years at the Boston Dispensary who showed marked jaundice, and an opportunity was given me by Drs. Fay and McEvoy to make an investigation of cases from their clinics in the same institution. It is somewhat remarkable that in two other clinics during my service of an equal period, not one markedly jaundiced person was found.

The routine method was to wash out the fasting stomach, give a glass of oil and immediately a teaspoonful of calcined magnesium oxide suspended in water; this was always taken without any difficulty and no subsequent nausea or vomiting ever occurred. After an interval of 45 minutes the content of the stomach was withdrawn with the tube into a cylinder whereupon the fat, of course, at once rose to the top and the clear fluid below was drawn off with a pipette. The fluid was tested with congo and litmus paper and if either reacted enough N/10 sodium hydroxide solution was added to make it neutral. Then, after filtration, five test tubes were made to contain 2 ccm. each of a solution of one gram of purified casein in a liter of 0.1% sodium carbonate solution, varying quantities of the gastric content ranging from 0.1 ccm. to 0.5 ccm. added, together with a few drops of chloroform water, and the whole allowed to remain in a brood oven for 24-36 hours. At that time a few drops of saturated sodium acetate solutions were added when, if the casein were digested, no precipitate occurred.

In all, ten cases were investigated, representing the extremes, of so-called malignant jaundice, where cancer is the cause of the obstruction, either by pressure of the growth on the biliary ducts or the direct involvement of the same by metastases from the original focus and of simple cholangitis or catarrhal jaundice, generally conceded to be due to a mild bacterial infection of the choledochus from the duodenum; that an infection may also take place through the blood current is possible, but the slight systemic disturbance which these patients suffer makes it quite improbable. The wide variation in the severity of the disease, of which the jaundice was only a symptom can better be shown by illustrative cases than by any words of mine.

CASE 1. A married woman, 52 years of age, declared she was well until three months ago when she had an attack of pain in her right side accompanied by vomiting. She declared she had never had any digestive disturbances until that time. From then, however, she has had a steadily increasing "yellow jaundice," gaseous eructations and occasional vomiting. Pain has not been a prominent feature since the first attack until a week ago when she began to have pain in the back. She is the mother of four healthy children. There has been marked loss of weight since the onset of the jaundice. She has been constipated but can tell nothing about the color of the stools.

Physical Examination showed the tongue to be clean, the temperature, 99.8°, the pulse, 80, and the most intense yellowing of the sclerae and skin. The edge of the liver could be felt 6 cm. below the costal border on the right side and there was tenderness over the gall-bladder but no nodules could be felt on the liver's surface. Heart and lungs were negative. The urine was dark with a Sp. G. of 1021 and there was absence of both albumin and sugar. There was a most intense reaction for bile pigments. Washing of the fasting stomach gave a large amount of "coffee-ground" material, with fragments of meat eaten two days before, a large number of sarcinae and reactions for free hydrochloric acid The subsequent oil meal showed no trypsin in the contents removed. Death occurred a few weeks afterward and the autopsy of which the record was obtained by courtesy of the Peter Bent Brigham Hospital, showed primary malignant disease of the head of the pancreas, metastases in the liver and pressure on the pylorus which was not, however, involved in the tumor as the gastric bleeding led one to believe.

In this instance there were two reasons why one would not expect to find trypsin in the gastric content after the oil meal,—the destruction of the pancreas and the pressure on the pylorus. Were the pancreas uninvolved, apparently, pressure upon the pylorus sufficient to cause stasis would exclude any advantage to be gained by

absence of this enzyme from the stomach. Another instance of absence of trypsin from the stomach accompanied by deep jaundice, where we could not determine whether the former was due to pressure on the duct or actual involvement of the pancreas in the malignant process until the exploratory operation is the following:

CASE 2. A man of 57 years had always been well to eight months ago when he began to have constipation for the first time in his life. His weight then was 181 pounds; at present it is 129. He had some diarrhea during the summer (examination in October) and light pains on right side extending from the costal border up the middle line of the axilla. Three days ago this pain increased to a real spasm which required morphine. There was no vomiting after it nor eructation of gas. One month ago he began to be jaundiced, the stools became gray, nausea intervened but no vomiting and gaseous eructations were common.

Physical Examination showed a much-emaciated individual, intensely jaundiced with a rigid mass the size of a man's fist under the right costal border just outside of the rectus which possessed a peculiarly ready mobility with respiration. It could not be grasped from above nor could the fingers be inserted between it and the ribs. The liver was not enlarged but over the epigastrium nodules could be felt that clearly belonged to that organ. There was no edema. The stomach area was very much enlarged downward and the fasting stomach contained a large food residue. After the stomach was washed clean the oil meal was given but no trypsin was found. No free hydrochloric acid was found in the washings. Three months later he underwent an exploratory laparotomy when the condition which I am able to report through the courtesy of the Massachusetts General Hospital was found to be as follows: "The gall-bladder was the size of a large pear. There was a large, hard nodule of cancer in the liver and malignant disease, involving the bile passages and pancreas." (Abstract from the House Records.)

Here again we have involvement of the pancreas and pressure upon the pylorus, either of which conditions would be sufficient to prevent a reflux of pancreatic juice into the stomach and account for the absence of trypsin. Were we to content ourselves with these cases alone, we might regard the exclusion of this enzyme from the stomach in jaundice as indicating severe organic disease of the pancreas, but unfortunately for this deduction the other eight patients suffering from equally as deep jaundice, in only one of whom could trypsin be found, did not follow this disastrous course and were apparently examples of simple catarrhal cholangitis, in which the duct of Wirsung must have been primarily or secondarily involved to account for the failure of the pancreatic ferment. As an illustration of one with and one without trypsin, the following cases are reported:—

CASE 3. A woman, 56 years of age, had had jaundice at the age of 12, one year ago and again 12 days ago which still persists. The previous attacks lasted four to six weeks as near as can be remembered. The present attack began with pains in the right side under the ribs and went across to the "pit of the stomach." They are aggravated by hard work and stooping but have never been severe enough for the use of an opiate. She has had almost constant nausea but has not vomited. She has taken three cascara pills but has had no movement of the bowels. Relief was finally obtained by a large dose of Epsom salts. There has been no menstruation for ten years.

Physical Examination showed a moderate yellowing of both skin and sclerae, no edema anywhere but a moderate prolapse of the stomach was visible which could be verified by palpation as reaching a hand's breadth below the navel There was tenderness and resistance over the gall-bladder and tenderness between the tenth and twelfth ribs on the right behind near their insertion. No enlargement of the liver could be made out, no mass found nor were any nodules detected. The temperature was 100° and the pulse 132. The urine contained abundant bile pigments but was otherwise without significance. Upon washing out the fasting stomach, no residue was found nor did the washings contain any free hydrochloric acid. The oil meal was given and removed 45 minutes afterwards, guarded with magnesium oxide. The pipetted portion was neutral and found to be absolutely free from trypsin. The patient went to the Peter Bent Brigham Hospital where, without operative intervention, she gradually improved and at present reports herself absolutely well.

CASE 4. A woman, 33 years of age has had five miscarriages, one three months ago. Was well for four weeks afterward when she began to have pain in the right side and nausea which after a persistance of three weeks terminated in jaundice. After she became yellow, she had no more pain nor nausea. Bowels have been confined and urine very dark. Movements have been white and she has lost 24 pounds in two months.

Physical Examination shows her deeply jaundiced and poorly nourished with sunken epigastrium due to gastroptosis. There was tenderness over the gall-bladder but the liver could not be felt. No mass nor resistance was discoverable. The temperature was 99.2°, and the pulse 90. The fasting stomach contained no residue but the contents removed after the oil meal digested the casein mixture promptly which, as has been stated, is the only instance in the ten cases of deep jaundice where trypsin was found. Under diet and treatment as an ambulatory case the woman became freed from her jaundice.

The other individuals were apparently suffering from catarrhal jaundice or cholangitis; at least no definite lesion could be discovered and the slow but steadily diminishing yellowing confirmed this. Thus by comparison of the mildest with the most severe cases we may learn that, however valuable the absence of trypsin may be in the absence of jaundice, it seems to fail us when that symptom prevails, in our determination of the integrity of the pancreas. In none of the milder cases had there ever been an instantaneous severe access of pain such as is common where the jaundice is due to the sudden occlusion of the communis by stone so that the theory of coincident closure of the choledochus and the

Wirsung by swelling of the mucous membrane of their several outlets is most probable in acute cases of short duration. Apart from the two malignant cases, two individuals had residue in the fasting stomach, an explanation of which is hard to give. Delayed motility has never been mentioned as one of the features of icterus, but two cases out of eight would seem to prove something more than a purely accidental coincidence; not the slightest suspicion of a pyloric narrowing was present in either case.

The presence of any considerable amount of bile in the stomach I have never seen and much less bile without trypsin, as is reported by some. The hindrance to the flow into the duodenum from the choledochus probably accounts for the former. The absence of trypsin, then, in the presence of icterus may mean conjoint cholangitis and pancreatitis, cholangitis with mere pressure on the outlet of the pancreatic duct, pressure of the enlarged head (carcinomatous) of the pancreas on the common duct, or mere pressure of a growth originating in the ducts on the pylorus, nor do I see how the presence or absence of trypsin under these conditions is going to be of any aid in diagnosis of the particular pathological state. When, in conjunction with this fact, we find considerable residue in the fasting stomach, it is safe to conclude that there is pyloric narrowing, due probably to outside pressure, and when the rare instance of bile without trypsin is found the inference to be drawn is that pancreatitis is primary and icterus secondary, due to pressure on the choledochus.

Clinical Department.

CHORIOEPITHELIOMA.

BY FREDERICK W. JOHNSON, M.D., F.A.C.S., BOSTON,

Gynecologist-in-Chief, Carney Hospital.

Mrs. L. M. P., aged 27 years, consulted me April 22, 1912, complaining of backache on standing which was relieved by lying down, intestinal indigestion and constipation. When unwell has sick headache and for the past five or six years has had severe pain in the lower abdomen with the flow, confining her in bed for three days. From the time she was eighteen years of age had anemia for year and a half. Family history negative. Menstruation began at fourteen. For the past year or two has usually gone over her time two or three days. Flows five days, flows freely, no leucorrhea, no vesical symptoms. On examination the uterus was found retroverted and not replaceable.

A dilating and curretting was done, the uterus was suspended and the appendix removed. The pathological report on the curettings and appendix was as follows: "Chronic hyperplastic endometritis with epithelial proliferations—chronic oblitering appendicitis."

June, 1913. Patient again consulted me giving the following history: September, 1912, menstruation ceased and she was supposed to be pregnant. January 1, 1913, delivered herself of a hydatidiform mole. From this time until March the 15th, when the uterus was curetted, there had been a bloody discharge. March the 24th, after considerable pain, a "fragment of placenta" was discharged. Following this the uterine discharge gradually subsided and she was free from it fo. one month, then the bloody discharge began again, she flowed profusely for a short time and ever since then there has been more or less bloody discharge. For the last two weeks the flowing has been more free and has been accompanied with cramp-like pains. The material from the March curettings was said by the pathologist not to be from deep enough tissues for a diagnosis.

On examination the uterus was found to be in good position, small and moveable, nothing found to account for the flowing.

January 12: Uterus curetted and the following is the pathological report: "Received fairly abundant curettings. Curettings consist of a new growth, largely necrotic, with enormous dilated vascular spaces about which occur masses of very large cells of indefinite outline with large deeply staining nuclei. Diagnosis: chorioepithelioma."

June 17, 1913: Pan-hysterectomy was done.

PATHOLOGICAL REPORT. S. 13.679.

The specimen consists of one piece of tissue, comprising the uterus, including the cervix, the tubes and the ovaries. The uterus is three and one-half by two and one-quarter by one and three-quarter inches in size. The peritoneal surface is smooth and the posterior wall is normal. In the anterior wall is a small projecting nodule suggesting an interstitial myoma. The cervix of the uterus has been closed with sutures: its mucous membrane is normal. As the tumor lies near the median line the uterus is completely bisected. The nodule corresponds to a dark red, soft mass of tissue like organized blood-clot, which is one inch in diameter, lying chiefly in the wall of the uterus, but projecting slightly into its cavity. It is separated from the peritoneal surface by nearly an inch of normal uterine wall. The margin of the tumor is rather sharply marked off from the myometrium, but close examination shows a somewhat serrated edge. The myometrium is normal. The endometrium, absent from the surface of the tumor, is thin, generally smooth, but slightly roughened between the tumor and the highest point of the uterine cavity.

The ovaries are normal in size, show a few fine adhesions and, on section, seem normal. No suggestion of excessive lutein formation.

The tubes are normal.

One-half the uterus, with corresponding tube and ovary, was placed in Pick's preserving fluid. The other half of the tumor was placed in Zenker's solution, the rest of the specimen in formalin. The Zenker material was imbedded in paraffin and stained with methylene blue and eosin; the formalin tissue in celloidin and stained with hemotoxylin and eosin.

Microscopical Examination. Tumor: The tumor consists of two kinds of cells which are intimately intermingled: (1) irregular masses of multinucleated protoplasm (syncytium); and (2) masses of

cells which show vesicular nuclei, very faintly staining protoplasm and cell boundary. Mitotic figures are seen in both syncytium (few) and in the separate cells (many). The margin between the tumor and the muscle is very irregular, from the invasion, and in places tumor cells, chiefly syncytium, are found in the blood vessels. Nothing is found suggesting chorionic villi.

Uterus: The wall of the uterus, at a distance from the tumor, is normal. The endometrium is thin and suggests granulation tissue. The glands are found only below the surface of the projecting muscle (curettage?). Such glands as are present are normal.

Ovary: The surface epithelium is fairly well preserved. There are a few strands of connective tissue attached (adhesions). The parenchyma of the ovary is normal. Follicles in various stages of development are seen. There is one well developed Graafian follicle but no part of the ovum appears in the sections. One small corpus luteum is seen, but nowhere is there any excess of the lutein-bearing cells. The stroma is normal.

Tube: The tube is normal.

Diagnosis: Chorioepithelioma.

June 12, 1914. There has been no evidence in any way of a return of the disease and as chorioepithelioma usually shows itself within a year after the operation, if it is going to return, we certainly can feel quite sure in this case that there will be no recurrence.

There is no vaginal discharge, no pain anywhere and there has been a gain of 20 pounds in weight.

Medical Progress.

RECENT PROGRESS IN THE TRANSPLANTATION OF TISSUES: A REVIEW OF THE LITERATURE.

BY R. H. MILLER, M.D., BOSTON.

IN view of the very large amount of literature which there is on this subject, it seems impossible to give at this time much more than a brief catalogue of some of the many diverse experimental and clinical results obtained by various men; and, moreover, in doing this it is difficult and bewildering to sort out the wheat from the chaff. I have intentionally left out any detailed account of bone transplantation, and have not gone extensively into the question of fascia transplantation, which was discussed here recently by Dean Lewis of Chicago. The viability and functioning power of these two, at least after auto-transplantation, is so generally accepted that a discussion of them would become one largely of technic and indications.

It seems to me fitting to consider first the preservation and growth of tissues outside the parent organism, and here we come at once to the remarkable work of Carrel. A tissue can be removed from the organism and be maintained in a condition of latent life, which means that its metabolism is so slight that it can hardly be detected, or even that it is tepmorarily suspended,—in other words, it is in a condition of unmanifested actual life or potential life. This unmanifested life is met with normally in all organisms as they progress from general death to elemental death. Following the "giving up of the ghost," so to speak, this condition exists till cadaveric lesions develop. The metabolism is suppressed, and it is conceivable that under favorable circumstances tissues in this condition of potential life could be preserved outside the body for an indefinite time. As long as 200 years ago Loewenhoeck first discovered latent life in the organism milnesium tardigradum,—which is very small but highly developed, containing nerves, nerve ganglia and muscle. After these had been dried up and apparently dead for a long time he obtained a resurrection and condition of active life simply by moistening them. Also some time ago Paul Best made successful transplants of rats' tails which had been kept in confined air at a low temperature for several days. Numerous experiments along this line emphasize that general death is merely the starting point of disintegrative phenomena which lead eventually to the destruction of the elemental living matter. Once this destruction has actually taken place, the tissue is, of course, beyond the possibility of life again. The point is that tissues for transplantation with life outside must be obtained shortly after the death of the organism. Highly developed structures, such as brain, hypophysis or thyroid, disintegrate rapidly, while others, such as skin and blood vessels, retain their latent life sometimes for hours.

Examples of latent life are numerous. Carrel has grafted successfully skin, arteries and veins kept in petrolatum in cold storage for days. He also preserved a lot of skin from an infant dying in labor and used it for grafts as much as seven weeks later, and even then some of it took. Tuffier has likewise preserved and later used, fat, bone, cartilage and peritoneum. He has used cold-storage fat from omentum and lipomata in plastic operations on the thorax. In the reconstruction of joints he has used omentum, peritoneum and cartilages; and in ten such operations there was neither elimination of the graft nor any other accident marring normal recovery. It is proved beyond doubt that human tissues preserved in cold storage can be used in human surgery, but, as will appear later, this has so far proved successful only for the less differentiated supporting and connecting tissues.

The actual life of tissues outside the organism is less important in clinical surgery, but a very interesting phenomenon, which has been observed in cultures similar to those in bacteriology. In the words of Carrel: "A culture consists of a plasmatic medium inoculated with small fragments of living tissues. It is essentially characterized by the active growth of the cells from the original fragment into the "plasmatic medium." After a period of growth in

one medium varying from 5-20 days, the cells will die unless transplanted to a fresh one,—in the latter event they will start again and grow luxuriantly. A culture of this sort transplanted into the body of an animal can take, and grow rapidly. Carrel has kept alive in media for months fragments of connective tissue, chick embryo heart and mammalian thyroid. The essentials for success are absolute asepsis, gentle handling, frequent washings and passages from an old medium to a fresh one. He succeeded in growing in vitro a portion of heart muscle which was still pulsating 104 days after removal from the body, and from this heart muscle he grew connective tissue which was still growing actively after sixteen months, having undergone 190 passages and washings. These cells were not in a state of survival, but of real life, because, like micro-organisms, they grew indefinitely. A striking feature of this experiment is that, practically, the occurrence of senility was prevented, and it suggests that permanent life of tissues in vitro is not an impossibility.

In contrast with life in culture media, is that obtained by Carrel in his experiments with the so-called "visceral organism," which I will describe briefly. In a series of cats, after he had tied off all the somatic vessels, he removed *en bloc*, all of the thoracic and abdominal viscera, without injuring them or disturbing their relations, and he immediately put them in a small tank of Ringer's solution at body temperature. The circulation of the lungs and abdominal organs was intact. He connected the trachea with an insufflation apparatus, which maintained artificial respiration; he connected the rectum and bladder with openings at the other end of the tank. In a few cases not enough blood was present in the splanchnic circulation and he had to do a transfusion into the organism's aorta. In several of these the organism kept alive for 12 hours,—in one for 13¼ hours. The heart kept on beating, the kidneys excreted, there was active peristalsis resulting in movements of the bowels, and in one case a stomach full of meat was digested. In other words, without any activation save the artificial respiration, the cat's viscera were maintained in a condition of active functionating life for 12 hours after the cat was dead and thrown away. It was noticed that before death the intestines became hyperemic and paralyzed, and Carrel assumed that the death was due to a progressive peritonitis. These experiments are a striking example of how much the viscera can do, even when all control from the central nervous system is cut off.

It does not seem absolutely necessary that a tissue be in a state of latent life to be of use as a graft, if its function is to be merely supportive, as, even if it is dead, it will often, if not usually, serve its purpose merely by virtue of its shape and consistency and other physical characteristics. For instance, the repair of defects in large blood vessels is difficult and dangerous, and yet it has been possible to close a hole 20 mm. x 10 mm. in the abdominal aorta of a dog by patching it with a piece of rubber, and the dog lived fifteen months, to all appearances perfectly normal. If a piece of rubber, an inert foreign substance, can be used in such an important piece of surgery as this, the wide scope of usefulness of animal tissues, even though dead, is at once apparent.

The methods of procedure in the various transplanting operations and experiments are too varied and minute to take up here. A great many, if not most, of the failures in the past have been due to errors or omissions in technic. Small points, which would probably not have much influence in the ordinary surgical operation, are enough to vitiate the results of a transplantation or graft. A slight break in asepsis, imperfect hemostasis, too rough handling of the tissue, or too much delay in getting the tissue from its original site to its new one,—all these are important factors which may prove unfavorable; and perfection of technic, skilful fingers, and rapidity, must be attained before good results can be hoped for from the work.

Taking up in more detail the different organs, the kidney has been the subject of much investigation. The first work I have found was that of Ullmann, who reported several cases in 1902. He first tried transplanting a dog's kidney from its normal location to the neck, suturing the renal vessels to the carotid and jugular; in this case the transplanted kidney secreted urine normally for five days. He reported also having successfully grafted a kidney from one dog into another, and also from a dog into a goat, planting it in the neck as above. Lubarsch and Alessandri tried at about the same time transplanting small bits of kidney tissue into the spleen and lymph glands, but they found that the fragments did not survive. Since that time Carrel, Enderlen, Lobenhoffer, Villard and Perrin and others have done kidney auto-transplantation with unquestioned functional success. They grafted the kidney onto the vessels of the neck, onto the pedicle of the spleen, and in some cases back again onto the renal vessels,—reimplantation. No one of these recent investigators has succeeded in transplanting from one animal to another,—whether or not of the same species. Villard and Perrin reported consistent failures in trying to transplant from one dog to another, from a cat to a dog and from a goat to a dog. A brief history of one of Carrel's cases will be of interest: On Feb. 6, 1908, the left kidney was removed from a dog; perfused, put in Locke's solution, and in thirty minutes resutured to the renal vessels, together with six inches of ureter. Thirteen days later the right kidney was removed. Thirteen months after operation eleven pups were born, and twenty months after operation three more pups were born. The dog died of ileus twenty-nine months after the operation. The caliber of the artery and vein was normal, the ureter and renal pelvis were normal, and the renal tissue was normal histologically.

Lobenhoffer had five successful cases of transplantation of the left kidney onto the splenic pedicle, followed later by removal of the right kidney. He examined these cases with great care, and found that the function of the transplanted kidney, as determined by water, salt, milk sugar and phloridzin showed no marked departure from the normal, and that the characteristic histologic features were not changed. All these experiments prove that renal secretion can go on practically normally after all communication with the central nervous system has been cut off, and it is probable that the influence of nerve fibers from the cord and sympathetic system is merely a regulatory one. So far as I have been able to find, it has yet to be demonstrated that a kidney can be successfully transplanted from one organism to another, though autotransplantation must be accepted as a proven fact. The above principles have been applied to man in only two cases,—Jaboulay attempted in one case to anastomose a goat's kidney, and another a sheep's to a man's vessels in the bend of the elbow. In each instance the kidneys became gangrenous. It has not been proved as yet that transplantation of the kidney is a possibility of any clinical value.

The thyroid has long been a subject of interest in this connection, and in 1883 Kocher reported an unsuccessful subcutaneous transplant following complete thyroidectomy. Then many others, Kocher, Lanz, Bircher, Mercklen, Walther and Collins, attempted various methods, with at the most only temporary improvement. Many different procedures were tried. Kocher and Lanz transplanted a dog's thyroid into the tunica vaginalis, Bircher did an intraperitoneal graft of a piece of the gland from another patient, while Merckler, Collins and Walther planted lambs' and sheep's thyroids under the breast. Most all of the cases showed temporary good results from absorption of thyroid tissue, but no benefit that lasted long enough to indicate that the transplanted thyroid survived in actual life. Schiff, Carle, Fano and Zando early tried the same procedures without encouraging results. As far back as 1892 von Eiselsberg reported four successful transplantations of thyroid into the abdominal wall of cats, between the peritoneum and fascia transversalis. In each case he removed half of the thyroid, transplanted it, then waited some months and extirpated the other half. There were no untoward symptoms till later on, when he operated a third time and removed the graft from the abdominal wall, and then each cat died promptly with symptoms of thyroid deprivation. In these cases the results were apparently sound and the transplanted organs were alive and functioning. Enderlen has tried similar experiments in many cats and dogs, with several successes, but he thinks that though the transplanted organ may apparently function for weeks or months, it may later on give out, causing death by its insufficiency. Stich and Makkas in three cases removed the thyroid from dogs and then sutured it back in place immediately—in seven cases they transplanted a thyroid from one dog directly into the neck of another whose thyroid had been removed. Of the three former, two were successful, and the gland, examined some time later, was normal in all its main characteristics. The latter seven cases were all complete failures. These authors felt that a thyroid could be removed, then be replaced, with vessel suture, and maintain all its normal anatomical and physiological characteristics. As all their attempts at transplantation from one animal to another had failed, they naturally felt pessimistic about its possibilities. Moskowicz in 1908 presented a six-year-old child with congenital myxedema who showed improvement for 95 days following the implantation of a bit of thyroid into the marrow cavity of the tibia. Kolzenberg reports two cases of the same disease showing marked improvement,—in the first case following the graft of a portion of the mother's thyroid into the spleen; and in the second case, into the marrow of the tibia. Payr reports numerous successful transplants in animals, into the spleen, followed later by removal of the rest of the thyroid. No untoward symptoms arose till later, when, following splenectomy, each one of the subjects died of thyroid insufficiency. Payr had one striking success, often quoted, in a six-year old cretin, who for three and one-half years had been treated medically without success. He removed a part of the mother's thyroid, imbedded it in the child's spleen, reinforced the wound in the spleen with omentum, and in six months the child showed marked and continuous improvement. Reading these cases leads one to think that they are in truth successful and that the future holds out great possibilities in this phase of the subject.

Of almost, if not quite as much importance as the thyroid, are the parathyroids. Von Eiselsberg, in his thyroid experiments just mentioned, transplanted the parathyroids also, and they lived and functioned in the abdominal wall, apparently as well as in the neck. Payr, Enderlen and Biedl have done similar work with equally good results. Leischner in 1907 reported a long series of transplants in rats, done in the following manner: In the first group he transplanted the parathyroids from one side into the abdominal wall, and later removed the others from the neck. In a great many of these the transplanted organs functioned normally, and the rats lived on without symptoms. In the second group he removed all the parathyroids at one time from the neck and placed them in the abdominal wall. All of this group had tetany, but some recovered, showing that the function was being carried on. He reports also success in transplanting from one rat to another; this operation followed later by the removal of the recipient's own glands, without evil effects. Pfeiffer and Mayer have had successful cases of auto-transplantation in dogs. Halsted of Johns

Hopkins has tried similar grafts, but has given no very definite results. His work led him to formulate the interesting idea that transplanted parathyroids would not live unless they were called upon to work,—that is, that for the glands to grow there must be a definite parathyroid deficiency in the body. This same fact will appear later in another connection. Halsted and Leischner agree, apparently with good reason, that transplantation of parathyroids in man is a logical procedure, that it is indicated in severe lasting tetany, and that following a thyroidectomy which has had to be finished in haste, owing to the patient's poor condition, the specimen should be searched for these glands, with the idea of reimplanting them.

Grafts of the genital organs have always been of interest and ovaries and pieces of ovary have been planted in various parts, chiefly the pelvis, fundus uteri, abdominal wall and leg. Brennan, Quénu, Sauvé, and Casalis have reported such cases, in which they attained varying degrees of success,—they were all auto-transplants. Davidson presented in Edinburgh three cases in which after double oöphorectomy he placed the ovaries in the rectus muscle. One was a failure; the other two continued to menstruate and felt much better than before the operation. In these two the presence of the ovaries in the abdominal wall made the wounds feel rather stiff and sore during catamenia. Tuffier of Paris reports 44 similar cases, namely, abdominal implantation following double oöphorectomy, and in 43 out of the 44 menstruation began again after the operation. Tuffier regards this procedure as a logical, conservative measure, and indicated especially where there is any evidence of hyperthyroidism, as in the latter event the disturbances of an artificial menopause may be great. There is a unique case, for which I cannot vouch, reported to the Edinburgh Society in 1907 by Sir Halliday Croom,—that of a woman, into whose pelvis was transplanted an ovary from another woman. The patient later not only menstruated, but conceived and gave birth to a full-term child. As to the testicle, experiments in the hands of some have failed, while others, notably Lode, Hanan and Foges, using the rooster as a subject, have succeeded in restoring male characteristics by implanting testicles or pieces of testicle after previous castration. Berthold, as long ago as 1849, succeeded in this experiment. Lespinasse reports a series of unsuccessful grafts in dogs, planting the gland both intraperitoneally and intramuscularly. This writer, however, presents one striking result in man. The patient, aged 38, had had one testicle removed in an operation for hernia with undescended testis, and the other he lost in an accident. A healthy donor was obtained, one testicle removed and cut in slices about one mm. thick. Of these slices two were placed in the rectus muscle and one in the scrotum. The man regained his sexual characteristics and retained them for two years, when he was lost sight of. This case is authentic and a strikingly successful one, and such an operation seems perfectly feasible,—it can at least do no harm.

Much work, mostly of physiological interest, has been done with the pancreas, chiefly to learn more about its internal secretion. I will mention only the experiments of J. H. Pratt and F. T. Murphy of this city, who transplanted parts of the pancreas into the spleen. Owing to technical difficulties most of the cases were unsatisfactory. One, however, which was more successful than the average, was as follows: A part of the pancreas, with a stalk containing its vessels left intact, was grafted into the spleen. Then later this vascular stalk was destroyed and the remaining pancreas removed, leaving only that which had previously been implanted in the spleen. The dog lived thereafter 187 days, with a low carbohydrate tolerance but without persistent glycosuria. This proves that pancreatic tissue planted in the spleen and separated from its original vascular and nervous connections can live and functionate for months, enough to prevent the development of diabetes. Besides being a recipient for grafted organs, the spleen has been removed entirely and sutured back in place, by Carrel, with perfect recovery of the animal; and, as shown later after death, a spleen apparently normal both macro- and microscopically. This again does not lend itself, so far as we can see now, to clinical use.

The surgery of the blood vessels offers a great field for the grafting of both fresh and preserved tissues. Carrel has replaced part of the aorta of a dog with a segment of the popliteal artery of a man, the segment having been kept in cold storage for 24 days. The result was excellent; the animal lived over four years and gave birth to pups several times. Equally successful was the case in which he transplanted a piece of jugular vein, preserved 24 hours, into the thoracic aorta. Lexer has resected an aneurysm of the femoral artery in man and filled in the gap with a piece of the saphenous vein, freshly obtained, 18 cm. long, with a brilliant functional and therapeutic result. Unger has successfully used the same method after resection of a popliteal aneurysm, and a femoral arterio-venous aneurysm, using segments of the saphenous vein respectively 15 cm. and 10 cm. long. Carrel has also successfully closed a hole in the abdominal aorta by substituting a patch extirpated from the abdominal wall and composed of peritoneum, subperitoneal connective tissue and transversalis muscle. Anatomically the patch adapted itself perfectly, the animals lived, and later histological examination showed that the elements, though unchanged in nature, assumed almost the same appearance as those of the aorta. Carrel says that the power of redintegration of an artery renders possible its patching with tissues which have by themselves very little resistance.

Transplantation of the intestine has not been a subject of much investigation, but recently Horsley, having in mind a clinical case in which

there had been a large gap in the sigmoid, tried in two dogs the implantation of a segment of ileum about 4½ inches long, to fill in such a loss of sigmoid,—in one case leaving the ileum attached to its mesentery and in the other cutting it free. Both dogs died of peritonitis resulting from gangrene of the transplanted segment. This procedure does not strike one as feasible.

The suture of nerves, even direct, is by no means always satisfactory, and the interposition of a nerve graft, either fresh or preserved, is necessarily an operation which cannot promise much as to functional result. Murphy has recently collected 22 such cases; 3 showed slight to moderate return of motion and sensation, 11 had varying degrees of return of sensation without motion, and the other 8 showed no improvement. Büngner has used a section of artery and Brewer a vein, to bridge over similar gaps. The former was said to have had a good result; the latter did not in two months, when it was reported.

A remarkable case has been reported by Magitot of Paris, of transplantation of the cornea. He resected a corneal scar in a man who had been burned with alkali, and replaced the defect with a section of cornea which had been removed eight days previously, in an enucleation for glaucoma, and preserved in human serum at +4° C. Seven months later the cornea was transparent and the man could see, though not very well. Of interest in connection with skin-grafts is the work of Stern in using amniotic membrane for this purpose, the membrane having been preserved aseptically in petrolatum. His results are not given in detail, but he found that in old leg ulcers these grafts took unevenly and only in spots, that in 11 cases of burns and scalds there was an even and diffuse adaptation of the graft, and there was one very successful case following traumatic denudation of the palm of the hand.

Coming to the less differentiated tissues, which I shall consider only briefly, the dura has been used experimentally, and it offers a substance which may prove of use in surgical technic, as it is easily and satisfactorily preserved, is strong and resistant to absorption, and it would clearly be a good medium for repairing dural defects.

Considering the transplantation, not so much of bones, as joints, Lexer reports two interesting cases. In one he transplanted, after resection, a complete knee-joint into the leg of a girl of 18. In a year and a half she walked with but a slight limp and some rocking of the knee joint. In a man of 38, following resection of the upper articular end of the tibia for sarcoma, he inserted a similar segment from a freshly amputated leg, and in three months the function of the joint was practically normal. Rehn and Waksabayashi report experiments in 12 rabbits, in each one of which they resected the upper third of the radius, including the joint surface, and interchanged them, operating on them two at a time. In every case reported the result was given—firm union, callus formation, apparently normal functioning cartilage, and free joint movements. In a child of four, following total removal of the ulna for sarcoma, they fitted in a fibula, still warm from another patient's leg, shaped the malleolus so as to form an olecranon, and sutured it in place. The child obtained flexion of the elbow to 90°, extension to nearly 180°, and fair movements of the hand—these were not given in detail. Tuffier has used with excellent results, following resection of the elbow, tibio-tarsal cartilage and cartilage from the scaphoid and astragalus of freshly amputated legs, to help form a new joint surface.

The transplantation of tendon is a procedure of value, and experimental and clinical work have both given brilliant results. Gluck, Peyrot, Monod and Mainzer report good functional outcome, not only from auto-grafts, but in those from one animal to another and from animal to man. Lewis and Davis have transplanted segments of Achilles tendons from one dog to another, and though the transplant, if examined later, shows regressive change in small areas, it as a whole remains alive, not being invaded by leucocytes or round cells. However, if a piece of tendon is transplanted into the abdominal wall, later examination will show that, though alive, it is shrunken, small, without signs of active life or active proliferation. In other words, if in its new situation it is not given a definite function, its course is retrogressive. Lexer speaks of this and advises motion, even as early as the sixth day. The scope of usefulness of tendon graft is very wide, as it can be applied to any part of the body where there is tendon defect, and the essentials for success are, asepsis, careful, firm suturing, freedom from adhesions, early motion, and patient after-care.

That fascia can be freely transplanted, will maintain its actual life and even grow stronger as more demand is put on it, is granted freely, and it is probable that one could think up innumerable uses to which it could be put, successfully, and which have never been tried. The best and commonest method is to dissect the necessary amount from the fascia lata or ilio tibial band of the patient's thigh, and use it as desired, still warm. Some uses to which it may be or has been put are covering defects in pleura, dura or hollow organs, re-enforcing blood vessels, fixation of prolapsed organs, strengthening of hernias, interposition between organs grown together, and as a suture material or ligature.

As to the possibilities which the future may hold, I do not think one can predict. That the transplantation of the less differentiated supporting tissues will be more worked out,—the use of fascia bone, tendon, etc.,— goes without saying and probably a great deal will be done which has not yet been attempted. It seems probable that auto- and hetero- transplantation

of the ductless glands, or pieces of them, will assume a more important place in surgery—especially the transplantation of the thyroid, parathyroid, and possibly the genital glands. The ductless glands are much more favorable to successful grafting than the other specialized organs. Though the removal and replacing *in situ* of an important organ has been successfully done, that particular procedure will probably not be of much use in surgery, and I should surmise that the transplanting of an organ in toto,—I mean a highly differentiated organ,—from one person to another, will hardly become an accepted or successful measure. To use the words of Carrel: "From a surgical standpoint, the problem of the graft of organs can be considered as having been solved. But from a biological standpoint, no conclusion has thus far been reached, because the interaction of the host and of its new organ are still practically unknown."

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REORGANIZATION OF THE STATE BOARD OF HEALTH.—On June 27 the House, by a rising vote of 72 to 23, passed to be engrossed the redrafted bill (House No. 2742) providing for the reorganization of the Massachusetts state board of health. An amendment was adopted providing that the enforcement of local regulations by the state department in cases of emergency shall be subject to the approval of the governor.

Reports of Societies.

COLLEGE OF PHYSICIANS OF PHILADELPHIA.

MEETING OF WEDNESDAY, MAY 6, 1914, AT 8 P.M.
THE PRESIDENT, DR. JAMES C. WILSON IN THE CHAIR.

THE ORGANIZATION OF THE BUREAU OF CHILD HYGIENE OF THE DEPARTMENT OF HEALTH OF NEW YORK CITY; AND ITS RESULTS.

DR. S. JOSEPHINE BAKER, Director of Child Hygiene, Department of Health, New York City: Up to the middle of the last century, illness was considered as a purely individual or personal matter, the community's responsibility being considered as a negligible factor. The exigencies of commerce caused the first marked change in this attitude. Cholera has been aptly called "the best lobbyist for public health funds that any city has had." Any corrective measures that are not based upon a constructive program for the ultimate health betterment of a community will not be satisfactory. The corrective attitude alone will not solve the problem. Education of the individual in wholesome living is a vital factor in sanitary progress. This educational aspect, with the full recognition of the importance of preventive health work has led to its most important expression—the conservation of the health and life of the child. New York City was the first community to take cognizance of the importance of child welfare work. The development of the attempt to work out a logical system for effective work is detailed in the paper. The Bureau of Child Hygiene was organized late in 1908 as a division of the Sanitary Bureau. In accordance with the idea back of the organization of this Bureau, that the main work was the prevention of disease and the education of the public to do its share, as rapidly as possible all activities relating to the health of children were co-ordinated and placed under the Bureau's control. The work at present starts with the prenatal care of the child and intensive studies show a probability of a distinct lessening in infant mortality. The Bureau of Child Hygiene has felt that the unsupervised, uneducated midwife, even at her best, is a distinct source of danger and should be subject to some definite control, and recommended to the board of Health a resolution prohibiting any midwife who had not previously practiced, from doing so after January 1, 1914, unless she had received a diploma from a school for midwives recognized by the Board of Health. Ophthalmia neonatorum has practically disappeared in New York City. Last year about 16,000 babies were under the care of our nurses with a mortality of 1.4%. There are probably about 5000 babies who at present are not properly cared for and we hope within the next year to have such an equipment that no baby shall be neglected. Educational publicity has been widely used. Instruction of groups of girls over twelve in the care of babies has been one of the most valuable factors of the work. The point of attack has been the well baby, and our efforts have been directed to the keeping of the well baby well. To secure the fullest efficiency effective co-operation has been obtained with all infant welfare organizations in the

city. Since the organization of the Bureau of Child Hygiene the death-rate of babies under one year of age has been reduced from 144 per 1000 births in 1907 to 101.9 in 1913. Of the largest ten cities in the United States, New York ranks second in its low rate of infant mortality, being outdistanced only by St. Louis with its rate of 99.5. Without prejudice it may be said that St. Louis can hardly be compared with New York in the complexity and size of its health problem. The Bureau of Child Hygiene controls the matter of the foundling baby by supervision of homes in which these children are boarded out from the big foundling asylums.

The care of the child of pre-school age is a most difficult problem. It is the intention of the Bureau to develop to the fullest extent the great possibilities in this matter. The day nurseries and orphan asylums of the city are under the control of the Bureau of Child Hygiene. The main care of the child from five to fifteen years falls within the work which is known as the medical inspection and examination of school children. This title, I believe, is a misnomer, and should be changed to "health supervision of children of school age." Since the organization of the Bureau of Child Hygiene it has not been necessary to close any public school in New York City because of an epidemic of contagious disease. Our methods are those of prevention with the exclusion from school of any child presenting premonitory symptoms of a contagious illness. In the most congested parts of New York it is difficult to discover cases of ringworms, scabies or impetigo. Trachoma has been reduced from 20% to 3%. In 1909, 13.1% of the children examined had defective vision; in 1913 this was reduced to 8.5%. The percentage of defective nasal breathing has decreased from 18.7% in 1909, to 8.9% in 1913.

Adequate systems of ventilation have not yet been put into effect in the New York City schools. This matter is under the control of the Board of Education. It is hoped that all schools will soon recognize the value of the open-window class. The enforcement of that part of the child labor law relating to the issuance of employment certificates falls naturally as the last of the Bureau's activities. The year previous to the organization of the Bureau of Child Hygiene, but one child was refused an employment certificate because of physical inability. Last year, practically 600 were refused outright and nearly double that number had their applications held pending their obtaining the necessary care to secure good health. Where we allow children to work we believe it is the duty of the community to see that they are physically able and that their work may not react injuriously upon them at the most important stage in their development. The Bureau has 705 employes, including physicians and nurses. Its budget appropriation for 1913 was $652,000. It is the youngest bureau of the department of health and the largest. The results of its five years' work show that it is possible for any community to have a constructive program for the health of children, and that such a program to be effective must be founded upon the idea of educational hygiene in preventive medicine.

MUNICIPAL SANITATION.

MR. M. N. BAKER, Editor *Engineering News*, New York City; President Board of Health, Montclair, N. J.: The subject of municipal sanitation is as broad as it is vital. It is a matter of life and death. Broadly, municipal sanitation embraces all those works or activities which it is the duty of the city to conduct or regulate in the interest of public health. One of the most neglected first principles of municipal administration is that consistent progress demands a clear conception of relative values of different lines of municipal work, both between the great division of municipal concern and within the divisions themselves. By a municipal program I mean not merely the planning of a city's activities for a single year but for many years to come, all with careful regard to the city's financial resources. Current practice in most American cities consists altogether too much in considering each division of municipal activity entirely by itself without regard to the other financial needs of the city. The result often is that the activity which has the most able orator, or whose administrative head has most political influence or backing, gets an undue share of the municipal funds, while other activities suffer accordingly. We must measure relative values in the field of public sanitation by vital statistics, which applied impartially and intelligently to the whole field, show that many lines of endeavor classed as sanitary, must seek their justification chiefly from serving other than health protective functions. When the promotion of public health is being considered far greater weight should be given to water purification than to sewage treatment. While water purification purifies, sewage purification does not, so far as the removal of the germs of communicable disease is concerned. Sewage purification is a misnomer. A clear-cut distinction should be made between municipal health on the one hand, and municipal cleansing or some other form of decency or convenience on the other. In my opinion, the work of municipal boards of health should be confined almost wholly to direct measures for the control of communicable and perhaps occupational diseases, to the reduction of infant mortality extended to cover child hygiene, and to certain regulatory and educational work designed to promote general health. If all municipalities were awake to their health department needs, tomorrow, there would be an instant demand for hundreds of trained health officers with comparatively few men of proper education and experience to meet this demand. I trust you will pardon me if I say that for many years I believed that our engineering schools far outdid our medical schools in offering the sort of training needed to make good health officers. I am still strongly inclined to that belief, but I now think that with a proper delimitation of the work of health departments so as to exclude all responsibility for the construction and operation of cleansing and other municipal work, which can best be entrusted to the engineer, and with the great improvements which have recently taken place in medical education, the medical rather than the engineering schools should be drawn upon for the vast majority of health officers; but the medical schools are not yet equipped and probably never will be equipped to give, nor medical students have time to take, all the instruction needed to make a good health officer.

DISCUSSION.

DR. A. C. ABBOTT: I do not believe that those of us living in Philadelphia, realize what it has meant for New York City to accomplish the results that

have been laid before us. In that city there is an area more densely populated than any other known spot on earth, and in 26 years there has been a reduction of mortality among children under one year of age of over 50%. They are far ahead of us in New York, on the matter of saving infant life. We are glad to be told that good health is purchaseable. When one decides to purchase a thing or a condition, one must not have in mind the purchasing of all outdoors. One should contemplate that which can be paid for. Mr. Baker, in his paper, has clearly indicated this idea. The prevention of illness is the function of our health authorities and should come first. The activities of our health boards in matters of general sanitation, are diverting energies from the more important phase of health work. In the matter of purification of sewage, we have an enormously expensive task if it be carried to the ideals advanced by some of our enthusiastic advocates. A moderate degree of purification costing a great deal less and thereby leaving more funds for real health work, would meet all demands. At the University of Pennsylvania, we have been offering instruction in public hygiene since 1906. Our effort is not to train specialists but to give the student a comprehensive understanding of the many-sided problem. It is significant of the spirit of the times that several other important educational institutions are also offering instructions in problems of public health significance. I think it desirable that a health officer should have a medical training, because he is dependent upon the professional men of the community for support, and he is much more apt to get it if he has had medical training, and is in sympathy with medical ideals. The man who has had, in addition to medical training, special instruction in public hygiene, is a much better health officer than he who has not.

The papers were further discussed by Dr. Jos. S. Neff, former Director of Public Health, Mr. Alexander M. Wilson, and Dr. Walter S. Cornell.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Meeting of Wednesday, April 22, 1914, 8.30 P. M.

The President, Dr. William D. Robinson, in the Chair.

THE PROPHYLAXIS OF VENEREAL DISEASES FROM THE STANDPOINT OF A PHYSICIAN.

Dr. Alexander A. Uhle: It has been due chiefly to the efforts of the societies of moral prophylaxis that the public has been educated to a rational consideration of the prevalence, severity and far-reaching consequences of venereal diseases. From the standpoint of the physician the prevention of these diseases resolves itself into the study of the source; measures for the protection of those exposed, and thorough treatment of those already infected. With the idea of ascertaining just how far venereal diseases could be traced to prostitution inquiry of 1265 patients showed that 614 were infected by women who commercialized vice, the balance or more than 50 per cent. were infected by indulgence for other than monetary consideration. The grave and difficult problem of limiting the spread of venereal diseases will never be accomplished without most active support and coöperation of the physician. At no time as at the present has syphilis been so well treated. The Wassermann reaction has called attention to a knowledge of uncured syphilis and Ehrlich's remedy has given us a most effective weapon for the spirocheta infection.

It cannot be too strongly emphasized that the gonococcus can, and does, lie dormant in the urethra and adnexa for years and that the exacerbations, frequently attributed to reinfections, are autoinfections. The patient's criterion of cure is a cessation of a urethral discharge, and it would appear that the criterion of cure of many physicians is much the same. We can safely say without fear of contradiction that a great percentage of patients annually treated remark that, not only are microscopic examinations and urethral examinations neglected, but the character of the urine is not even determined. We can never expect to eradicate gonorrhea until the future generation attains a higher ideal of morality, the present generation realizes the far-reaching consequences of the disease and the physician has a thorough understanding of the pathogenesis and scientific treatment of the disease. Statistics compiled during the time of an effort made by the Law and Order Society and the Department of Public Safety of this City to wipe out public prostitution showed an increased clandestine prostitution as a source of venereal infection of 200%; a diminution of the number of infections contracted in public houses of 300%; increased infections from street walkers of 1000%, and an actual increase of the total number of infections of almost 10%. During the past few years it has been demonstrated by scientific investigation that prophylactic measures can be employed successfully against venereal diseases. These measures properly and promptly applied will do more toward the elimination of these diseases than any other effort in this direction. Another most important step is the complete cure of already infected cases. Every physician should impress upon his patients that gonorrhea is infectious until cured, no matter how long it may have existed. The only time that syphilis can be promptly cured is before the infection has become general. After this the only index of cure is a negative reaction over a prolonged and, as yet, indefinite time. The public can best coöperate with the physician in this vital question by demanding that every hospital receiving state or municipal aid shall provide proper facilities for the care and treatment of those afflicted with these diseases.

THE PREVENTION OF VENEREAL DISEASES IN THE NAVY.

Dr. Charles F. Stokes: We feel that we are justified in using prophylactic measures in the navy, in that we regard the men as so many mechanical units, and that it is our prime duty to keep each man fit. If we have a lot of cripples through venereal disease we are inefficient. In 1912 we had 147,787 sick days attributable to venereal disease. This means a dreadnought which carries 1000 men is put out of commission; a whole crew is disabled for 147 days—roundly, five months. We have practiced venereal prophylaxis for some time, but in this we have never have had sanction or official recognition. We have prefaced our instructions regarding treatment by lectures upon sex hygiene. That this prophylaxis will encourage immorality is not

true, as shown by our statistics since our institution of lectures upon sex hygiene and instruction regarding prophylactic treatment.

DISCUSSION.

DR. EDWARD MARTIN: In considering the prevention of venereal disease the factors leading to exposure must be carefully studied and first among the predetermining factors is rum,—which blunts the perceptions and brings forgetfulness of consequences. It has been said that if every drop of liquor could be wiped from a given town, every house of prostitution would have to close its doors. A second step is to make consequences inevitable by detection of the disease and lessening of income. Perhaps no movement will so much help in this respect as the Employer's Liability Law. This will mean a careful physical examination for every man applying for a position. With the knowledge of the presence of the disease will come the inevitable consequences. Therefore the precautions to be observed will more certainly be taken. For the first time in the medical history of the world we have a means of prevention; not the ideal means of continence, but a means by which in the majority of cases after exposure the disease consequence may be avoided.

PREVENTION OF VENEREAL DISEASE.
HOSPITAL ASPECT.

DR. LEONARD D. FRESCOLN: It is unfortunate that we have not hospitals for venereal cases and other cases not admitted in the ordinary hospital, but only in the city hospital. Many of such patients are reluctant to go to the free hospital, where, however, they would be prevented from spreading the disease. In the city hospital there are separate wards for these cases, and the syphilitics should be separated from chancroids and gonorrhea cases, the male wards having male nurses, and the female, female nurses. It is lamentable that cases of gonorrheal ophthalmia are permitted to develop, as we see them in the special eye-ward, from urethral gonorrhea. Every physician should caution his gonorrhea cases against this complication. Cases of congenital syphilis have the chance in the hospital of starting treatment early, after positive Wassermann reaction. Gonorrheal vaginitis in children is to be controlled by thorough sterilization of the diapers in the hospital and not allowed to spread throughout the institution. There are many cases of syphilis contracted innocently. The hospital, especially, should set the example of precautions against such spread of the disease. There should be installed some form of "bubbler" or fountain in the building so that no one's lips need touch anything in drinking but the water as is done on our modern battleships.

The system of baths such as are used at the St. Louis' Hospital, Paris, are to be commended as a first step in preventive medicine, the medicine of modern day progress. Friendly consultation on the part of venereal and dermatological chiefs is also to be commended when there is question about diagnosis. Reporting of venereal cases, in a tactful way, is to be looked for in the future just as reporting other transmissible diseases. It is pitiable to know that rape cases are brought to us frequently because of a pernicious idea of foreigners that gonorrhea can be cured by intercourse with a young girl. These cases deservedly are handled strenuously by the law.

DR. ALICE WELD TALLANT: My experience with disease of this sort is largely drawn from one of the reform schools of the State. The great proportion of the girls admitted to this school are committed for immorality and at least 25% of all girls admitted are infected with venereal disease. The serious question presented to us is the treatment and prevention of the spread of the disease, and I cannot too strongly echo what has been said regarding the difficulty of getting such cases treated. Not until proper hospital facilities for the treatment of this disease are obtained can we hope for anything to prevent its dissemination. I don't believe the private doctor's treatment of these cases is worth anything in the sort of case we have to deal with. The girls are not kept under supervision long enough to determine the duration of the disease. With regard to our treatment; the girls are isolated from the others; all have single beds; they are required to wash their own clothing and their own dishes. In the eight or nine years of my association with the school there has been no case of infection resulting from any girl in the institution. We are at least protecting the community for a certain length of time in having these girls under supervision for at least two years. I believe with Dr. Martin that the control of the liquor traffic would do a great deal toward the prevention of public prostitution, clandestine prostitution, and thus toward the prevention of venereal disease. We have many girls from eight to eighteen who have not been immoral in houses of prostitution, but with boys in school, or who have been outraged in their homes. It is not realized how great danger the girls in the ordinary walks of life run in the matter of intercourse with boys. Having once broken down the barrier, it is easy to make a second step. I strongly believe the important question is not that of teaching sex hygiene, but of the teaching of self-control and the putting of a moral backbone into children as early as possible. The proportion of immorality, and so the proportion of venereal disease among defectives is far and away higher than in those of normal mentality. Until something is done to control defectives the problem of prostitution and of illicit intercourse will remain unsolved. It is a disgrace that in Pennsylvania there is no place where a feeble-minded woman can be sent. We have at our school one or two hundred girls, feeble-minded, over whom we have jurisdiction until they are twenty-one. When they are 21 we send them out. They go back to their families or to the Philadelphia Hospital. They are of age, and there is no place in this state where they can be kept from being sources of procreation, of prostitution and of the spread of venereal disease. Until the state wakes up to the importance of this point we shall continue to have the spread of immorality and of venereal disease with it. Much has been said of the failure to stamp out vice in the redlight districts. With all the enforcement of laws we may never expect success until the public conscience is behind the movement. The only way to get the public conscience awakened is to get the conscience of every private individual fully awake on the matter.

DR. H. M. CHRISTIAN: The only way to prevent venereal disease is to bring about the moral regeneration of the race,—a consummation to be hoped for, but not to be expected. The only thing for us to do is to safeguard the community by prophylaxis.

Dr. John W. West: One thing to my mind most needed in the prevention of venereal disease is the proper care of the girls of our country. If the good women of this country who are so ardent for suffrage—which I would not deny them—would spend their time teaching women how to take care of their children, they would do large service toward the prevention of venereal disease. I am in accord with Dr. Martin that elimination of the rum business would do a great deal. There must be also intelligent supervision of the housing conditions in our big cities. A large part of the source of infection is in the boarding houses of our cities, and in the interest of the city or state the authorities have the right to inquire whether unprotected young girls are being maintained in that particular form of residence who are being led astray and being made to add to the source of infection and to the terrible curse brought about by venereal disease.

Dr. Robert N. Willson, Jr.: To my mind woman is rapidly taking the position which she has failed to take in the past and I believe she will determine whether prostitution is to continue, whether venereal disease is to be a permanent thing, and whether present measures of prevention or others more effectual are to be the successful ones. One means of prevention women can carry out is to instruct every young girl as she comes toward the marriage age that there are clean men and unclean. The moment that attitude is taken great progress will have been made. The boy should be instructed, not for his own sake, but for the sake of her whom he will marry, and for the sake of the child. I believe there is manhood enough, chivalry enough in our boys, to determine whether they shall doom some girl to a crippled life or children to disease or death. I believe we have gone a long step toward that position. In reference to the attitude taken by our army and navy, although considered from the standpoint of each man regarded as a mechanical unit, I question whether the introduction of such a method amongst the general profession might not lower the tone of our influence upon the boys and girls as they grow up.

Dr. Stokes, closing: I am thoroughly in accord with reporting these cases. You will not get the true percentage of cases but you will warn the community to some extent of the prevalence of these diseases. It is not necessary to report the cases by name. If a community knows that there are so many cases of syphilis in this or that social sphere they will take educational measures seriously. Let the board of health publish the cases by number.

Book Reviews.

Organic Chemistry. For Students of Medicine. By James Walker, LL.D., F.R.S.; professor of Chemistry, University of Edinburgh. London: Gurney and Jackson. Edinburgh: Oliver and Boyd, Tweeddale Court. 1913.

It has long been the practice to teach organic and physiological chemistry together. All works on the latter subject contain usually sufficient medical organic chemistry for the understanding of the basic principles of the latter. This work by Walker contains a description of the usual means of ultimate analysis for identification of known products and the detection of new substances. The author, however, does not bring out clearly the connection of the different compounds described with medicine, for instance, the association of carbon monoxid with poisoning is barely mentioned. Methyl alcohol receives the same scanty consideration, though the book is said in the preface to be written for medical men. It contains, however, a mass of uncorrelated facts, which will arouse little enthusiasm, particularly in medical students. The close pathological association between oxybutyric and diacetic acids and acetone is not mentioned at all, while the broad statement of how the first is made cannot interest a class of students for whom the book was written, but might those who expect to devote their lives to chemistry. A fair index accompanies the work.

How to Diagnose Smallpox. By W. McC. Wanklyn, B.A. Cantab., M.R.C.S., L.R.C.P., D.P.H. With illustrations. New York: Paul B. Hoeber. 1914.

This monograph, as indicated by its subtitle, is intended to be "a guide for general practitioners, post-graduate students, and others" in the early recognition of smallpox. It represents a series of clinical lectures based upon the author's experience, as medical superintendent of the river ambulance service of the London Metropolitan Asylums Board, with 10,000 cases of smallpox during the London epidemic of 1901 and 1902. The book is an exceedingly lucid exposition of the disease well illustrated with six plates, four diagrams, and a chart. In diagnosis, Dr. Wanklyn believes the most importance should be assigned to the evidence afforded by the distribution of the rash. His work is a valuable contribution to the literature of the exanthemata.

The Evolution of the Study of Anatomy. By J. Ewing Mears, M.D., LL.D. Philadelphia: William J. Dornan. 1914.

This monograph, reprinted from the Transactions of the American Surgical Association, is a brief essay on the history of anatomic teaching, especially in "its important relation to the development of surgical knowledge." Dr. Mears reviews the subject, and the great men associated with it, from Hippocrates to the present time. His work is illustrated by four full-page plates and three figures in the text. It is a useful compendious contribution to the literature of the history of anatomy.

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NOTICE TO FELLOWS OF THE MASSACHUSETTS MEDICAL SOCIETY.

The BOSTON MEDICAL AND SURGICAL JOURNAL, hereafter the official organ of the MASSACHUSETTS MEDICAL SOCIETY, will be sent only to those Fellows whose dues for the current financial year (Jan. 1, 1914, to Dec. 31, 1914) are paid in full.

CHARLES F. WITHINGTON, M.D.,
WALTER L. BURRAGE, M.D.,
FREDERICK T. LORD, M.D.,

Committee of the Massachusetts Medical Society Having in Charge the Affiliation.

AFFILIATION WITH THE MASSACHUSETTS MEDICAL SOCIETY.

WITH this issue of the JOURNAL begins an official affiliation with the Massachusetts Medical Society. From time to time for many years past some form of association between the Society and this JOURNAL has been contemplated but no consummation was reached until the matter was again taken up in the fall of 1913 and after careful consideration a formal affiliation voted by the councillors of the Society at its June, 1914, meeting.

A brief statement of the steps leading up to this final arrangement should be of interest to our readers. At a meeting of the councillors of the Massachusetts Medical Society held October 1, 1913, certain motions were offered by Dr. Homer Gage of Worcester looking toward a closer relationship with this JOURNAL than had hitherto existed, in the hope that the Society might thereby secure an official organ for the publication of its papers and transactions. A consideration of these propositions was undertaken by the committee on publications and scientific papers, with the result that at the February meeting of the councillors a definite plan of procedure was presented looking toward an official affiliation. The importance of the matter was felt to be such that the recommendations of this committee were not adopted forthwith and a second committee of nine was appointed by the president for a further consideration of the plan suggested by the committee on publications and scientific papers. Shortly after this committee began its deliberations the ownership of the JOURNAL changed hands. The former owners, Dr. William L. Richardson, Dr. J. Collins Warren and Dr. F. C. Shattuck, after a long and devoted service in the interests of the JOURNAL, transferred their ownership for a nominal sum to Dr. J. E. Goldthwait, Dr. Edward C. Streeter and Dr. Hugh Williams, who in their published announcement appearing in our issue of June 18 have expressed their purpose to maintain the position of dignity which the JOURNAL has held and to extend its influence so far as lies in their power. They felt that an affiliation between the Massachusetts Medical Society and the JOURNAL would be a significant step in the realization of this aim, and therefore entered with enthusiasm into the spirit of the negotiations with the committee of nine. A plan was finally presented to the meeting of the councillors held June 9, embodying recommendations for an alliance with the JOURNAL. These recommendations were unanimously accepted by the council and further final details were ratified at a special meeting held June 20. At this meeting a committee of three, composed of Dr. Charles F. Withington, president of the society; Dr. Walter L. Burrage, secretary of the Society; and Dr. Frederick T. Lord, a member of the committee on publications and scientific papers, were appointed with power to act in effecting the final arrangements with the MEDICAL JOURNAL. At this meeting also, Dr. W. L. Burrage and Dr. F. T. Lord were appointed editors of the Massachusetts Medical Society, to act in association with the present editorial staff of the JOURNAL. An additional advisory board of four from the Massachusetts Medical Society will later be appointed to act in conjunction with the three owners and Dr. Robert B. Osgood in relation to

matters of policy and such questions in the conduct of the JOURNAL as may be referred to them.

By this general arrangement, the details of which it is not possible to give in the space here at our command but which will later be published in full in our columns, it will be seen that the JOURNAL, while maintaining its position of independence will, nevertheless, have the benefit of advice and criticism from a body of men representative of the best traditions of medicine in this state. The interests of the JOURNAL and of the Society are identical, and it is not to be questioned that this affiliation assumed with a due sense of responsibility both by the Society and the JOURNAL, will result in wider influence in all matters pertaining to the progress of medicine, not only in this state, but throughout New England and so far as may be throughout the country. It is our hope, as expressed in the preliminary announcement of the owners, that in the future the JOURNAL may become the most important medium of expression for scientific and clinical medicine in the East and with courage and timeliness may serve the needs of the community. This has been the aim of the JOURNAL since its inception nearly one hundred years ago, and through various vicissitudes and occasional misunderstandings it has sought to express and reflect the best medical opinion liberally and unselfishly.

The predecessors of the present owners for many years unostentatiously stood behind the interests of the JOURNAL, and following their long stewardship have been glad to pass their responsibilities on to the present owners, who in the same spirit are pledged to carry on their ownership as a trust, deriving no personal profit therefrom.

At this time of transition to what is hoped will prove a larger work, it is fitting that the devotion of the former editor of the JOURNAL, Dr. George B. Shattuck, should be mentioned. For thirty years Dr. Shattuck served the medical community without other thought than maintaining the JOURNAL as a medium of progressive medical thought, according to the traditions of its past. It is hoped that the editorship may be carried on in the same spirit.

In entering, therefore, upon this expansion of our work we ask for cöoperation and beg to assure the profession that our aim will be to represent in the broadest and most liberal possible way the interests of practical medicine and scientific advance.

MEDICAL LEGISLATION. THE MILK PROBLEM.

THE legislative season in Massachusetts is now nearly at an end, and as yet no satisfactory action has been taken on that perennially important topic, the milk question. Though it seems unlikely that any such action will be taken at the present session, it is worth while to review the status of the situation and to consider briefly the relative merits of the several bills introduced this year in the attempt to solve this much-vexed problem.

On Jan. 1, 1914, there appeared a report of the dairy inspection division of the Boston board of health, which served to point out some of the evils in the present milk traffic and the urgent necessity of suitable legislation to correct them. According to this report by Dr. Patrick H. Mullowney, 70% of all market milk sold in Boston is subject to one or more heating processes before sale, and of this only 5% is perfectly pasteurized by an approved process.

"Large milk contractors in this city maintain that it would be practically impossible to pasteurize all their milk in the final container, as it would require ten times the amount of space as at present occupied and would entail an additional yearly expense of $300,000; that the price of a quart of milk to the consumer would be increased two cents over the present price. Another method of pasteurization is in bulk form, milk being held in a holding device for at least twenty-five minutes at a temperature of 145° F., at the end of this time being cooled immediately to a temperature below 50° F., then bottled and capped by mechanical means."

As a matter of fact, when the inspectors began the work upon which this report is based, it was found that 95% of the pasteurized milk was being treated by the flash method at producing stations in the country.

"The practice of 'making' milk obtains at all the contractors' receiving stations in Boston and, while it may be of little importance from a sanitary point of view, it enables the contractor to bring a low-grade milk hauled from a long distance, and by the addition of solids or fats, bring the milk into competition with high-grade milk produced near Boston." Dr. Mullowney says: "One contractor in times of shortage extends his condensed milk product into market milk, and as yet there is no legal redress that can be obtained. It is the opinion of the writer that no milk should be pasteurized for sale in Boston unless each step in the process is watched by an inspector of this department. To carry

out this plan in detail inspectors are being placed in the different receiving plants in Boston, whose duty it will be to maintain close supervision over this work during the day and night. Pasteurization, no matter how perfectly performed, will never make milk that is loaded with extraneous matter more sweet and palatable. It has been the practice of some of the contractors to use pasteurization as a cloak to hide dirty, sour milk, rather than to use it legitimately to make milk of a doubtful quality safe."

"Boston's milk is now supplied by about 7300 dairy farms, the longest haul being 400 miles. There are several districts under the supervision of the board of health. The dairies provided with proper milk rooms for the handling of milk, at the time the report was written, numbered 3717, and the dairies without milk rooms numbered 3907. The total number of cows inspected was 94,941. The number of dairies prohibited from selling milk in Boston, on account of unsanitary conditions or lack of coöperation with the Boston Board of Health, was 347, and the number of dairies prohibited on account of the presence of communicable diseases on the farms totalled 38."

These data, showing the nature of the milk problem in Boston, suggest its nature also in other cities and towns of the Commonwealth, where the welfare and safety of consumers is less adequately protected by action of local boards of health. Central control of the milk supply throughout the state is essential to any satisfac tory and equable solution of the problem.

Early in the present legislative season the Massachusetts Milk Consumers' Association introduced before the General Court the "consumers' clean milk bill" (House No. 936), which essentially represents the Ellis milk bill that has been before the legislature for several previous seasons. The chief provisions of this bill in its present form may be summarized as follows:—

"1. Regulations governing the production and sale of milk are to be passed by a board of five, appointed by the governor, of whom two shall have had practical experience in milk production. This is fair to the producer and makes it certain that nothing unreasonable or expensive will be asked of him. Two members are to be physicians or bacteriologists, and the fifth a sanitarian. This board serves without compensation, as it has nothing to do after the passage of the regulations, except to amend them when it seems necessary.

"No regulation can go into effect until after a public hearing and until approved by the governor and council. This gives producers absolute protection.

"2. The regulations will be administered by the health authorities, state and local. The general supervision of the work will rest with the state board of health in order to secure unity and efficiency in health protection, but the actual inspection will be done by the local inspectors where possible. Milk health work and other health work are so closely related that they should be supervised by one and the same authority. Otherwise the maximum saving of lives and sickness cannot be attained because of the division of responsibility which would be fatal to efficiency. Such supervision will enable it to prevent annoying and uneconomical duplications of inspection, thereby affording relief to such producers as are now over-inspected.

"3. The powers of the local boards of health are carefully preserved.

"4. As the out-of-state boards of health pay no attention to milk sent into Massachusetts, most of the actual inspection of the state board of health under the bill will be confined to out-of-state dairies, from which about two-thirds of our milk comes.

"5. In order to control the out-of-state milk and to obtain a complete list of handlers of milk, dealers must register all their producers and also take out permits from the state board. This can be done by mail. No fee is charged.

"6. The out-of-state milk will be subject to the same inspection as Massachusetts milk, thus securing uniformity of treatment and protecting Massachusetts producers from the unfair competition of uninspected out-of-state milk."

The Massachusetts state board of health at present has no power to enforce its suggestions for cleanliness in the production and distribution of milk. The supervision and control of the milk supply is vested in the state board in 27 other states of the Union, the latest of which to give its state board this important power being New York. Some of the reasons why similar legislative action is desirable in Massachusetts were stated as follows by the consumers' association in conjunction with its bill:—

"1. Over 270 towns in Massachusetts have no milk inspectors.

"2. Many local boards which have milk inspectors do very little systematic dairy inspection.

"3. Our present laws give no adequate means of preventing the spread of milk-borne epidemics, of which we have a number every year at great cost of life and health.

"4. Over 60% of our milk comes from without the state and there is no one with authority to prevent the bringing of unfit milk into the state.

"5. There is, likewise, no power in the state board of health to prevent unfit milk condemned in one town from being sold in another, and there is no way in which individual towns can obtain protection except by an absurd and impossible duplication of inspection.

"6. Most of our local boards have neither the expert knowledge nor the laboratory equipment for the prevention of disease by a proper supervision of their milk supplies.

"7. Milk produced or distributed under dirty conditions and, for that reason excluded from a city, may be sold anywhere else in the state. The state board of health now has no power to exclude such milk from the entire state market.

"8. For this reason, milk supposed to be excluded is often actually sold in the city ordering its exclusion, not only as milk, but in the form of butter, cheese or ice cream.

"9. Wherever concerted action has been taken to make sure that children are given pure milk, there has been a tremendous reduction in the infant mortality. In New York City, for instance, chiefly for this reason the infant mortality rate has been reduced from 125.6 in 1910 to 105.3 in 1913.

"10. In Massachusetts 117 children out of every thousand die in their first year, the rate for 1912 being 117.8.

"If New York City's rate had prevailed in Massachusetts in 1912, there would have been over 1100 less infant deaths here.

"11. Three thousand one hundred and eighty children under two years of age died in Massachusetts of diarrhea and enteritis in 1912.

"12. In the last ten years in Massachusetts there have been 17 important milk-borne epidemics, covering 7300 cases.

"13. From 20% to 25% of the tuberculosis among infants is caused by the milk of tuberculous cows.

"14. There is now no system of control to minimize the possibility of milk-borne epidemics and the spread of bovine tuberculosis among children.

"15. Because there is no proper state-wide system of milk and dairy inspection, there is a lack of public confidence in milk which keeps down the demand and hurts the milk business.

"16. As the greater part of our milk is now mixed together in tanks, the milk of our conscientious producers is contaminated by that of careless producers. The two or three untidy producers in every ten not only constantly menace the public health but hurt the business of the other conscientious seven or eight.

"17. Many Massachusetts producers whose places are inspected have to compete with milk from farms which are not inspected, especially out-of-state farms.

"18. Two state commissions have investigated the subject and reported the need of legislation, because, as one of the reports stated, the lack of law both creates a constant menace to the public health and also places an undue burden upon producers."

The Ellis bill was approved by over 400 organizations in this state. A petition in its favor was sent to the House, signed by 500 residents of Canton, Mass., where at the time a milk-borne epidemic of streptococcus tonsillitis was epidemic. Eight such epidemics have occurred this year in various Massachusetts towns. The importance of milk inspection in their prevention is evidenced by the order of the state board of health this spring,—

"That, beginning March 1, 1914, it shall be the duty of the officers in charge of any city or state institution, charitable institution, public or private hospital, dispensary or lying-in hospital, or any local board of health or any physician in any city or town to give immediate notice (preferably by telephone or telegram, 'collect') to the State Board of Health, Room 145, State House, Boston, Mass., in every case coming to their notice in which typhoid fever, diphtheria or scarlet fever has occurred in the household of any person engaged in the production, transportation or distribution of milk for public sale; and in every case coming to their notice in which typhoid fever, diphtheria or scarlet fever has been due, or presumably has been due, to the consumption of milk infected with material derived from persons infected with said diseases."

Committee hearings on the Ellis bill were held on March 3, 4, and 5. Physicians and consumers generally spoke in its favor, and it was generally opposed by producers. Many other milk bills were also introduced and considered. Most important among these were the Bigelow bill, the Clark bill, the Lydon bill, and the Walker bill.

The Bigelow bill provided for "the better supervision of the conditions under which milk is produced, transported, and sold." It was generally approved by cattle owners and opposed by consumers.

The Lydon bill gives to the Massachusetts state board of health the right to exclude from market in this Commonwealth any out-of-state milk not produced or handled under sanitary conditions which it deems satisfactory.

The Walker bill (House No. 2595), backed by the state cattle bureau, provided "that, except in cases of contagious diseases now under the jurisdiction of the state board of health, no inspections shall be made by that board of barns, stables, pastures, yards or other places where neat cattle, other ruminants or swine are kept." This was tantamount to taking from the state board of health what little control it now has over the milk situation and transferring the entire authority and control to the hands of the board of animal industry.

After much discussion in committee and before the legislature, the Walker bill was defeated in the House on May 22 by a vote of 44 to 74. The Bigelow bill was given leave to withdraw. On June 11, to the great disappointment of its hopeful advocates, the Ellis bill was defeated in the Senate by a vote of 15 to 22.

The Clark bill is a substitute measure brought forward in the argument against the Ellis bill. "It centres the power of regulating dairies and milk agencies in the local boards of health, with the added provision that as soon as a local board shuts off a dairy on the grounds of its product being unsatisfactory, it shall notify the state board of health, which shall at once have the power to bar the sale of the milk in all other communities." Amendments to this bill in behalf of the Massachusetts Milk Consumers' Association were refused on June 15 by the Senate, which ordered the bill to a third reading. On June 18 the Lydon bill, though reported adversely by committee, was taken up by the House for consideration. As they stand, these bills are not a satisfactory substitute for the Ellis bill, and their passage is therefore on the whole not to be desired.

The repeated failure of the Ellis bill, and indeed of all milk legislation is a disheartening phenomenon since it represents apathy on the one hand and private interest on the other. The uncertainty of the situation has affected milk production so that between 1906 and 1912 the number of cows in Massachusetts decreased by the amount of nearly 20,000. The milk industry is important, from the standpoint of economics as well as of hygiene, involving an expenditure by the Massachusetts consumers of over $25,000,000 a year. These consumers deserve legislative protection and security.

In his annual discourse before The Massachusetts Medical Society on June 10, Dr. Horace D. Arnold said of the milk situation:—

"If the milk consumers—practically the whole population of the state—knew the real facts about our milk supply, they would not be satisfied with the present state of affairs. People are indifferent on this problem merely because they do not know the facts about it. If they fully realized the dangers from infected milk there would be little trouble in securing reasonable legislation. No one can instruct them so well in this matter as the medical profession. yet the profession as a body has taken no effective steps in this direction. The surest way to secure proper legislation is to enlighten the public and not merely appear as a committee or association before the legislature.

"It is clear that the public must be taught that milk is not merely a farm product nor an article of commerce, but a peculiarly unstable article of food which acts as an excellent culture medium for bacteria. They must be made to realize how easily milk may become infected through carelessness in its preparation, transportation and distribution, and that the time that elapses before it is consumed is often sufficient for an abundant growth of micro-organisms. They will then understand how readily it may become a dangerous article of food—especially if it is consumed raw, as is frequently the case.

"Greater publicity should be given to epidemics which are proved to be transmitted by milk. These concrete instances should be used as lessons for the public, and not merely for scientific reports before medical societies, or as news items in the hands of lay reporters and editors.

"When they know enough about this matter the people will insist on having clean milk—and will be willing to pay a reasonable price for it."

It is time that concerted action by the medical profession, based on unanimous professional opinion, should accomplish this popular education and compel the passage of the proper milk legislation which becomes imperative in any progressive community.

MEDICAL NOTES.

THE JOURNAL OF PARASITOLOGY.—It is announced that a new medical journal, dealing with parasitology, is about to begin publication. The advisability of establishing an American publication in the field of parasitology has been under discussion for some time. Such a journal is clearly demanded by the increasing amount of work in this field, the growing importance of the subject in its broader aspects as related to disease in man and other animals, and the intense biological interest in associated theoretical problems, together with the evident advantage of a representative publication and the lack of adequate opportunity for printing such papers elsewhere.

The *Journal of Parasitology* will be a medium for the prompt publication of briefer papers and research notes on animal parasites. Emphasis will be laid on the morphology, life history, and biology of zoöparasites, and the relations of animals to disease. Longer contributions of exceptional value may be printed occasionally, but or-

dinarily single papers will be limited to ten or fifteen text pages. For illustrations zinc etchings will be used.

The *Journal* will publish the reports of the Helminthological Society of Washington and a brief record of personal and institutional items in parasitology. Critical summaries in special fields have been secured from American and foreign contributors. It is not planned to review individual papers, but books or monographs of striking character and technical methods of especial merit will receive appropriate notice. A final policy will be developed in the light of experience and the editorial board will aim to contribute as effectively as possible to the dissemination of knowledge and the encouragement of teaching and research in parasitology.

A guaranty fund subscribed by various individuals and institutions assures the regular appearance of this periodical quarterly at least for a three-year period so that the editorial board will devote its attention to determining broadly the needs of the field and the best methods of serving them.

Manuscripts of articles offered for publication, copies of books for review, subscriptions, and correspondence relative to the management of the *Journal* should be sent to the managing editor, Henry B. Ward, University of Illinois, Urbana, Illinois.

The *Journal* will be issued quarterly. Each number will contain 70 to 80 pages of text and illustrations and the subscription price will be $2.00 a year.

The good wishes of the Boston Medical and Surgical Journal are cordially extended to this new special publication of medical science.

The Wellcome Historical Medical Museum.—The Historical Medical Museum, which was founded by Mr. Henry S. Wellcome in connection with the Seventeenth International Congress of Medicine, was reopened on May 28 as a permanent institution in London. It is now known as the "Wellcome Historical Medical Museum" and is open daily from 10 a.m. to 6 p.m., closing at 1 p.m. on Saturdays; entrance 54A, Wigmore Street, Cavendish Square, W. Since closing last October the collections in the museum have been considerably augmented and entirely rearranged. Many objects of importance and interest have been added, which it is hoped will increase the usefulness of the museum to those interested in the history of medicine. Members of the medical and kindred professions are admitted on presenting their visiting cards. Tickets of admission may be obtained by others interested in the history of medicine on application to the curator, accompanied by an introduction from a registered medical practitioner. Ladies will be admitted, only if accompanied by a qualified medical man.

Health of British Army and Navy.—Recent health reports of the British army and navy show gratifying improvement of morbidity and mortality of late years. In the decade from 1888 to 1898 there was in the navy an annual average of 997 hospital admissions and 9 deaths per 1000 men. In 1912 there were only 426 hospital admissions and 3.25 deaths per 1000. In the army from 1906 to 1911 there was an annual average of 666 hospital admissions per 1000 men. In 1912 the number of admissions was 642 per 1000.

Sick Rates at Vera Cruz.—Report from Vera Cruz, Mexico, on June 20 states that among the United States troops in that city on June 18 there were only 68 cases of sickness. The sick-rate for the week ended June 17 was 2.15% for the army and 2.88% for the marines. These rates are lower than those prevailing in these entire services throughout the past year.

The First British Leprosarium.—The first leprosarium in Great Britain is to be established next fall in Essex with a legacy of £5000 from the late Lord Strathcona. There are at present 20 known lepers in the country.

BOSTON AND NEW ENGLAND.

Boston Milk and Baby Hygiene Association.—Several weeks ago we published an appeal from the Boston Milk and Baby Hygiene Association for $2000 to provide extra nurses for carrying on its summer work. Of this sum $600 are still needed. The association is at present caring for 1451 babies, as against 1090 at the corresponding time last year. Contributions should be sent to Mr. Charles E. Mason, 26 Bennett Street, Boston.

Infant Mortality in Springfield.—The Springfield (Mass.) bureau of municipal research has published a report of a recent survey of health conditions in that city. Of the infant

mortality rate the report speaks in part as follows:—

"Springfield is to be congratulated upon its low infant mortality rate. Out of 3105 births during 1913 there were only 295 deaths during the first year of life. This is an infant mortality rate of 95 per 1000 births, a lower rate than that of any other city in the country of which there is accurate record. The factors to which credit is mainly given for this favorable showing are: a remarkably good milk supply, due to the regulations of the health department, and the efforts of the Baby Feeding Association, a private organization, which employs visiting nurses to educate mothers in proper care and feeding."

This is another illustration of the immense importance of infant feeding, and of the efficacy of modern administrative methods in controlling infant death-rates.

MASSACHUSETTS ANTI-TUBERCULOSIS LEAGUE.—An important leaflet is being sent out by the recently organized Massachusetts Anti-Tuberculosis League. In a few short paragraphs, it calls attention to the most important laws relating to the tuberculosis problem, clearly indicates the duty of each city and town, and suggests that every agency receiving the leaflet find out whether or not the law is being complied with in its particular community. Three of the most important laws on our statute books relating to tuberculosis are those requiring every case of tuberculosis known to a doctor or householder to be reported to the local board of health, that which compels every town of over 10,000 inhabitants to maintain a tuberculosis dispensary, and the one requiring cities to build tuberculosis hospitals. The public is not generally awake to the importance of strict enforcement of these laws. The information contained in the leaflet is both complete and full of suggestions to the organization that wishes to take part in stamping out the disease.

GROWTH OF FREE PUBLIC MEDICAL DISPENSARIES.—Statistics recently published show the remarkable growth of free public medical dispensaries in this country during the past century. In 1800 there were only three such dispensaries in the United States, at New York, Philadelphia, and Boston. In 1900 there were 100. In 1904 there were 156 dispensaries in 21 of the 48 states, 18 of these dispensaries being for tuberculosis. In 1910 there were 574 dispensaries and out-patient clinics, and only 10 of the states were without any. In 1913 there were 700 such institutions, 263 of them being for tuberculosis. These dispensaries treat annually about 3,000,000 patients, of whom, however, one-half make only one visit.

CASES OF INFECTIOUS DISEASES reported to the Boston Board of Health for the week ending June 23, 1914: Diphtheria, 35, of which 2 were non-residents; scarlatina, 45, of which 3 were none-residents; typhoid fever, 6; measles, 121, of which 1 was non-resident; smallpox, 1; tuberculosis, 44, of which 1 was non-resident. The death-rate of the reported deaths for the week was 13.89.

NEW YORK.

MORTALITY FOR THE WEEK ENDING JUNE 20, 1914.—There were 1222 deaths reported during the past week and a death-rate of 11.42 per 1000 of the population, as against 1370 deaths and a rate of 13.10 for the corresponding week of 1913, an absolute decrease of 148 deaths and of 1.88 points in the rate, which is equivalent to a decrease of 210 deaths.

This is the third time in the history of the city that the weekly death-rate has gone below 12 per 1000 of the population. The first time that the rate went below 12 was that of the week of November 2, 1912, and the rate went down to 11.59; on June 28, 1913, the rate was 11.48, so that the rate during the past week has gone a shade lower than upon the dates above mentioned.

The contagious and infectious diseases showed a considerable decrease in the mortality. There were 25 deaths reported during the past week from measles, scarlet fever, diphtheria, whooping cough and typhoid fever, against 84 in the corresponding week of 1913. The mortality from diarrheal diseases was very small and a little lower. The following causes showed materially decreased mortality: Digestive diseases other than diarrheal, organic heart diseases, tuberculous diseases other than pulmonary, Bright's disease and nephritis, diseases of the nervous system and violence. Pulmonary tuberculosis showed an increase of 23 deaths, lobar pneumonia of 12 deaths.

Viewed from the point of age grouping the greatest decrease was at the age group below five years of age, all the other age grouping of the population showed a decreased mortality, but not to the extent of the infants.

The death-rate for the first twenty-five weeks of this year was 14.91 per 1000 of the population, as against 15.18 during the corresponding period of 1913, a decrease of .27 of a point.

MORTALITY IN MAY.—The weekly reports of the health department show that during the month of May the mortality in the city represented an annual death-rate of 14.67, as against 14.99 in April and 14.49 in May, 1913. Among the diseases in which there was a decline in fatality were the following: The weekly average of deaths from scarlet fever decreased from 18 in April to 16 in May; the weekly average from whooping cough, from 7.5 to 6.75; from diphtheria and croup, from 40.5 to 38.25; from influenza, from 15.25 to 3; from pulmonary tuberculosis, from 197.75 to 180.5; from acute bronchitis, from 12.25 to 10; from pneumonia, from 132.5 to 113; from pleuro-pneumonia, from 116.25 to 110.25; from apoplexy and softening of the brain, from 24.75 to 22.5; from hernia and intestinal obstruction, from 14.75 to 11; from cirrhosis of the liver, from 18.75 to 15.71; and from puerperal diseases, from 17.5 to 14.25. Among the diseases in which there was an augmented mortality were the following: The weekly average of deaths from typhoid fever increased from 3.75 to 6.75; from measles, from 20.5 to 24.75; from epidemic cerebrospinal meningitis, from 3.75 to 8; from tuberculous meningitis, from 18 to 20.25; from cancer, from 87 to 91; from organic heart diseases, from 208 to 213.25; from diarrheal diseases under five years, from 33.25 to 42.75; from appendicitis and typhilitis, from 14.75 to 15.75; and from Bright's disease and acute nephritis, from 110 to 117.25.

TUBERCULOSIS AMONG IMMIGRANTS.—Dr. Walter Rathbun, physician in charge of the health department's Otisville Sanatorium, reports that among the 1,197,892 immigrant aliens arriving at Ellis Island during the year ending January 30, only 38 were debarred on account of having tuberculosis. There can be no doubt, he says, that this small number represents but a small fraction of immigrants actually tuberculous, though the failure to recognize a larger number of infected individuals is not surprising in view of the immense numbers of immigrants to be examined and the wholly inadequate number of examining physicians. In a number of New York City Institutions the proportion of foreign-born patients is given as follows: Otisville Sanatorium, 45%; Metropolitan Hospital, 51%; Riverside Hospital, 45%; Seton Hospital for Contumptives, 39%; Bellevue Hospital, 48% (25% of them aliens); Bedford Hills Sanatorium, 84% (most of them aliens). Dr. Rathbun suggests that the federal government appoint a commission of experts to study the situation and outline a more thorough system of examination of immigrants.

BUREAU OF PUBLIC HEALTH INSTRUCTION.—In accordance with recent action by the municipal authorities, a bureau of public health instruction has been established in the health department. The directorship of the bureau is a Civil Service position, with an annual salary of $5,000, and it is understood that the appointee must devote his time and attention to the work, to the exclusion of all conflicting interests. Pending the appointment of a permanent director, Dr. C. F. Bolduan, of the department, has been assigned to organize a division of public health instruction and temporarily act as its chief. Among the suggested functions of the bureau are the following: To prepare and publish popular leaflets on matters of public health, issue press bulletins, and edit the regular publications of the health department, to organize and direct public health lectures, both independently and in connection with existing agencies; to prepare traveling exhibits to be shown in various parts of the city, designed to educate the public in various phases of public health; to prepare and exhibit moving picture films dealing with public health work; to administer the library of the department and conduct in connection therewith a journal club for the study by department officials of public health literature; to assist in the organization of a school of sanitary science, or in the preparation of practical courses in public health in conjunction with medical colleges; to organize educational lectures and study courses within the department for the training of various groups of workers.

REDUCTION OF INFANT MORTALITY.—The statewide campaign for the reduction of infant mortality is now well under way. The state health department reports that three exhibits are "on the road," and up to June 1 had been shown in twenty cities. Twenty-six other cities were to be visited, and, commencing early in August, the exhibits are to be shown at the county fairs. The attendance at the exhibits and meetings in connection with them has been most gratifying,

and in a number of the cities has averaged over 3,000. The local press has been of material service in aiding the work. For ten days previous to the coming of the exhibit to a city the newspapers publish articles referring to it each day, and when it arrives devote several columns a day to an account of the exhibit and the meetings.

Current Literature

MEDICAL RECORD.

JUNE 13, 1914.

1. CASE, J. T. *A Word of Caution Concerning Palpation Under the Fluoroscopic Screen.*
2. JUDSON, A. B. *Trigger-Finger, Its Cause and Mechanism.*
3. LYNCH, J. M. *Pruritus Ani.*
4. SMITH, O. C. *Needle Protruding Through Wall of Stomach.*
5. *MAUNHEIM, G. *Subsequent Report of Patients Who Received Injections of Friedmann Vaccine Over a Year Ago.*
6. ROSENSTIRN, J. *Should the Sanitary Control of Prostitution Be Abandoned?*
7. AUSTIN, C. K. *Clinical Estimation of the Cholesterinemic Index.*
8. NAUNNACK, C. E. *The Management of Cardiorenal Disease.*
9. GREELEY, H. *The Cause and Treatment of Chronic Rheumatism.*

5. Maunheim gives a report of the progress of eighteen cases of pulmonary tuberculosis treated with the Friedmann vaccine in March, 1913. Of these, three are now dead, five are worse, and five show no change in condition. In seven of the eighteen patients abscesses developed at the site of the initial inoculation. One patient has since developed genital tuberculosis and one tuberculosis of the knee-joint. The writer is convinced that the vaccine is not of therapeutic value and may do harm. [L. D. C.]

NEW YORK MEDICAL JOURNAL.

JUNE 13, 1914.

1. WOOLLEY, P. G. *Insolation.*
2. WOOD, H. C., JR. *The Treatment of Rheumatic Fever.*
3. PEDERSEN, V. C. *Urethral and Prostatic Symptoms Caused by a Large Internal Pile.*
4. BOGGS, R. H. *The Modern Trend in the Treatment of Malignancy.*
5. CLAIBORNE, J. H. *Hypertrichosis in Women.*
6. CRUIKSHANK, W. J. *The Practice of Medicine Act.*
7. SPIVAK, C. D. *Post-Mortem Examinations Among the Jews.*
8. NEILSON, C. H. *The Teaching of General Medicine.*
9. BRODHEAD, G. L. *Cesarean Section for Double Multilocular Ovarian Cyst.*
10. STIMSON, C. M. *A Magnetized Needle Holder.*
11. KAHN, A. *Facilitating the Crile Method of Transfusion.*

THE ARCHIVES OF INTERNAL MEDICINE.

MAY, 1914.

1. *LUSK, G., AND RICHE, J. A. *Animal Calorimetry: The Alleged Influence of the Adrenals on Diabetic Metabolism.*
2. *BALDWIN, E. R. *Experimental Studies of the Blood Serum of Cows Immunized Against Tuberculosis. Sensitization of Living Tubercle Bacilli.*
3. HARTWELL, J. A., HOUGET, J. P., AND BEEKMAN, F. *An Experimental Study of Intestinal Obstruction.*
4. CRAIG, C. F. *The Classification of Amebas. With Observations on Morphology and Life Cycle of Entameba Coli, Craigia Hominis and Vahlkampfia Lobospinosa.*
5. OERTEL, H. *The Physiologic Degeneration of the Mesonephros. With a Consideration of Antagonistic Action of Organs and of Functional Mutation with Morphological Persistence.*
6. FIELD, C. M. *A Method Developed for Obtaining a Standard Wassermann Antigen.*
7. *HERRICK, W. W. *A Study of the Action of Atropin on the Eosinophil Cells of the Blood.*
8. *CARTER, E. P. *Clinical Observations of Defective Conduction in the Branches of the Auriculoventricular Bundle. A Report of Twenty-two Cases in Which Aberrant Beats Were Obtained.*

1. Lusk and Riche, in a series of experiments on dogs, tested the influence of the adrenals on diabetic metabolism, their work dealing especially with the question whether or not epinephrin glycosuria is due to an inhibition of the internal secretion of the pancreas, which thereby renders the organism truly diabetic in the sense that there is a decreased power to oxidize glucose. Their findings answer this question in the negative. Previous experiments of Lusk and others have shown that epinephrin does not cause the production of sugar from fat and does not increase protein destruction through thyroid stimulation.

2. Baldwin reports a large number of observations of the properties of the blood serum of a cow repeatedly immunized against tuberculosis during a period of ten years. Specific agglutinin, precipitin, opsonin, and complement-deviating antibody were demonstrated in varying degree in the serum but never reached a high content. The presence of a bacteriolysin was not demonstrated. Living human tubercle bacilli "sensitized" with the immune serum showed increased infective power in guinea-pigs and rabbits as compared with normal cow serum. The increased infective power was manifested by earlier and more marked reactions or inflammation following inoculation, and a wider spread of the disease than in controls. The writers conclude that a sensitized living tubercle-bacillus vaccine is not safe or practicable when prepared from immune bovine sera.

7. Herrick studied the action of atropine on the eosinophiles of the blood in guinea-pigs. He found that in ordinary non-toxic doses it had no striking influence. Given in toxic doses resulting in loss of weight, and other signs of disturbed nutrition, atropin caused a diminution in the number of these cells, and the eosinophilia following interval injections of serum was diminished or absent. The writer thinks it probable that this effect of atropine is not specific, but is the depression of a highly specialized function by the general effect on nutrition of large amounts of a strong poison.

8. Carter presents a description of twenty-two cases in which evidence of defective conduction in one or the other branch of the auriculoventricular bundle was observed by means of the electrocardiograph. He finds that in the presence of lesions involving conductivity in these branches a characteristic electrocardiogram is obtained indicating aberrant ventricular contractions. These are frequently associated with aortic valve disease. Bundle branch defects are usually accompanied by defects in the main trunk, suggesting that the junctional tissues as a whole have a special pathology. [L. D. C.]

MÜNCHENER MEDIZINISCHE WOCHENSCHRIFT.

No. 21. MAY 26, 1914.

1. *SCHITTENHELM, A., AND WIEDEMANN, G. *The Treatment of Tuberculosis by Friedmann's Vaccine.*
2. VERPLOEGH, H., AND KEHRER, J. K. W. *Bacteriological Studies in Lymphogranulomata.*
3. KLIENEBERGER, C. *The Blood Picture of Acute Leukemia as a Transitory Symptom.*
4. WIDMER. *The Out-door Treatment of Pneumonia.*
5. TRAUGOTT, H. *Intra-spinous and Local Anesthesia in Laparotomy.*
6. HAUPTMANN, A. *Protective Ferments in Abderhalden's Reaction.*
7. FLATOW, L. *The So-called 'Protective Ferments.'*
8. ROMINGER, E. *The Treatment of Phimosis in Childhood.*
9. PFEIFFER, E. *The Treatment of Diabetes.*
10. KERSTEN, H. E. *Intramuscular Injections of Neosalvarsan.*
11. *FISCHER, A. *Thymectomy for Thymic Tracheal Stenosis.*
12. FINCK, J. *Antiseptic Solutions of Turpentine.*
13. LOEWE, O. *The Treatment of Ingrowing Nails.*
14. HÜBENER, W. *The Apparatus of Lotsch for Anesthesia.*
15. V. D. PORTEIN, E. *The Treatment of Delirium Tremens with Veronal.*

1. In a critical study of Friedmann's tuberculosis cure, Schittenhelm and Wiedemann report upon forty unselected cases of tuberculosis treated with Friedmann's "avirulent and atoxic" vaccine, administered according to Friedmann's directions. Five cases out of twenty-five of pulmonary tuberculosis showed certain signs of subjective improvement without change in physical examination. However, in one case renal tuberculosis was observed to develop during the course of treatment, and in a few cases death seemed to occur directly as a result of the second injection of the virus. The few cases of joint tuberculosis which were treated seemed to improve. Renal tuberculosis was unaffected. One case of Addison's disease undoubtedly was injured.

From these results, Schittenhelm and Wiedemann do not advocate the general use of Friedmann's vaccine in the treatment of tuberculosis. The risk of doing harm appears large. The beneficial results obtained from this form of treatment in their hands might have occurred from other more certain means.

10. Fischer describes the symptom complex to which he gives the name "thymic tracheal stenosis." It occurs in children as a somewhat characteristic dyspnea due to mechanical obstruction of the trachea from an enlarged thymus gland. It is not, necessarily, associated with status lymphaticus.

Fischer considers that the treatment of such a condition is surgical. Partial intracapsular thymectomy should be performed to relieve the obstruction.

[R. F.]

No. 22. JUNE 2, 1914.

1. ABDERHALDEN, E., AND GRIGORESCU, L. *The Reaction of Animals Possessing Abnormal Ferments in the Blood to the Parenteral Introduction of Certain Peptones, Proteins and Sera.*
2. MEYER-BETZ, F., RYHINER, P., AND SCHWEISHEIMER, W. *The Clinical Significance of Abderhalden's Reaction.*
3. *BOVERI, P. *A New Reaction of Cerebro-spinal Fluid.*
4. DECRINIS, M., AND FRANK, E. *The Gold Reaction in Cerebro-spinal Fluid.*
5. *FALTA, W. *A Mixed Vegetable Cure in Diabetes Mellitus.*
6. GEIGEL, R. *The Clinical Value of Orthodiagraphy.*
7. RÜHL, K. *The Use of Salvarsan or Neosalvarsan in Ambulant Cases.*
8. KÖNIG, F. *Problems in the Treatment of Malignant Disease in Relation to Radio-therapy.*
9. MÜLLER, C. *Operation and Ray Treatment.*
10. WEICKSEL, J. *Dystrophia Adiposo Genitalis.*
11. PETERKA, H. *The Treatment of Photophobia in Eczematous Conjunctivitis.*
12. REINZENSTEIN, A. *Internal Conditions Predisposing to Prolapse of the Mucous Membrane of the Sigmoid Flexure and Rectum.*
13. MERZBACH, G. *Toxic Manifestations of Embarin.*
14. TRAUTMANN, G. *A Plastic Operation in Extracapsular Tonsillectomy.*
15. BÖTTCHER. *A Method to Prevent Breakage in Cleaning Cover Glasses.*
16. LANGE, F. *The Imperial Orthopedic Clinic in Munich.*

3. Boveri's reaction consists in the addition of 1 c.c. of 1-10% potassium permanganate solution to 1 c.c. of cerebro-spinal fluid. Normally, the mixture becomes a reddish-violet color, but if the cerebro-spinal fluid is pathological the mixture becomes a clear yellow. The advantages of the test are simplicity and delicacy. Positive results give certain evidence of an abnormal cerebro-spinal fluid, although without relation to the degree of pleocytosis. The most marked readings have been obtained in inflammatory conditions of the cord.

5. Since Von Noorden advocated the oatmeal cure for diabetes, this form of treatment has been generally used in severe cases. A disadvantage with it has been that patients have not borne it well over long periods of time. Recently Falta has obtained striking results in the treatment of severe diabetes by giving instead of oatmeal alone, other similar vegetable soups, including corn, rice, barley, tapioca, etc.

In the twenty cases which he has studied, the different patients have reacted variously to these different vegetables. But all have remained nearly sugar-free, and without acidosis.

Falta considers theoretically that the efficacy of this treatment depends on the exclusion of animal albumin from the diet. For the presence of albumin diminishes glycogen formation in the liver, and thus more sugar passes through this organ into the blood. In severe diabetes the organism is unable to use this sugar on account of injury to the islands of Langerhans in the pancreas. [R. F.]

REVUE DE CHIRURGIE.

MAY, 1914.

1. LAURENT, O. *Aneurysms and Nerve Injuries in Military Surgery.*
2. QUÉNU, E. *Mammary Sporotrichosis.*
3. *DUVAL, P. *Operative Technic of Cecopexy.*
4. *HAYEM, L. *Wounds of the Knee and Their Treatment.*
5. POTEL, G. *Essay on Congenital Malformations of the Limbs, Their Pathogenic Classification. (To be continued.)*
6. WALTER-SALLIS. *The Liver in Appendicitis.*

3. Duval describes the technic of fixation of the cecum to the tendon of the psoas parvus.

4. Hayem's consideration is exclusive of gunshot wounds. [R. M. G.]

IL POLICLINICO.

APRIL, 1914.

MEDICAL SECTION.

1. PISANO, G. *On Primary Sarcoma of the Liver and the Better Anatomic and Clinical Understanding of Hepatic Neoplasms.*
2. TRULLI, N. *Pedunculated Tumors of the Liver.*
3. MARTINELLI, P. N., AND PIZZETTI, D. *The Reaction of Moriz-Weisz; Its Pathologic Significance and Clinical Value.*

3. Martinelli and Pizzetti discuss the urinary color test for tuberculosis described by Weiscz in 1910. The test consists in adding several drops of a solution of potassium permanganate (1:1000) to urine diluted with twice its volume of water. If the reaction is positive, a more or less intense yellow color develops. The writers find that a positive reaction indicates a rapid destruction of the tissues and especially an abnormal elimination of protein substances. The reaction is present in typhoid fever, in scarlet fever, in the acute paroxysms of malaria, and generally in severe infection. In advanced phthisis the test is positive; in well marked cases often negative; in incipient cases only occasionally positive. The disappearance of the reaction in cases where it has been constantly present is a good prognostic sign and evidence that treatment is efficient. [L. D. C.]

SURGICAL SECTION.

1. BONOLA, F. *New Technic for Neurolytic Injections into the Trunk of the Inferior Maxillary Nerve at the Level of the Foramen Ovale.*
2. PIRONDINI, E. *Amylolytic Determination in the Urine as a Method of Diagnosis of Renal Function.*
3. *LONGO, L. *Three Interesting Cases of Echinococcus Cyst.*
4. ZAPELLONI, L. C. *Homoioplastics of the Dura. (To be continued.)*

3. Longo reports cases of echinococcus cyst of the glutei, of the adductors, and of the kidney, the third in a child of seven. There is an excellent alphabetic bibliography of 56 titles. [R. M. G.]

MAY, 1914.

MEDICAL SECTION.

1. VERDOZZI, C. *Fat Necrosis of the Pancreas and the Peripancreatic Tissue.*
2. PISANO, G. *Primary Sarcoma of the Liver and the Better Understanding, Anatomical and Clinical, of Hepatic Neoplasms.*
3. *BOSCO, P. *The Practical Value of Thick Films for the Microscopic Diagnosis of Malaria.*

3. Bosco discusses the use of thick films in examining the blood for malaria, a method first described by James in 1910. He finds that by increasing the number of parasites in a given preparation it shortens the time necessary for microscopic examination. The method is valuable, he says, for hematological examination in other diseases. He obtained excellent results with it in the study of relapsing fever at Tripoli. The spirilla of this disease have a tendency to clump, and the writer has been able by means of the thick film to make the diagnosis with the naked eye. [L. D. C.]

SURGICAL SECTION.

1. MINGAZZINI, G., AND ALESSANDRI, R. *Indications for the Late Extraction of Projectiles from the Interior of the Cranium.*
2. *ZAPELLONI, L. C. *Homoioplastics of the Dura. (Conclusion.)*
3. DIALTI, G. *Hematuria from Vesical Varices. (To be continued.)*
4. SOLIERI, S. *Stab Wounds of the Brain Through the Base of the Skull.*

2. Zapelloni completes and summarizes his interesting study of plastic procedures on the dura, and concludes with an alphabetic bibliography of 246 titles on the subject. [R. M. G.]

Miscellany.

IMPORTANT MEDICAL MEETINGS.

SEVERAL important medical meetings have been in progress in the United States during the past fortnight.

On June 19 and 20 the annual meeting of the American Orthopedic Association was held in Philadelphia. Of particular interest among the subjects discussed were papers on bone-grafting presented by Drs. C. William Nathan, W. E. Gallie, H. P. Galloway, and F. H. Albee. June 21 was observed in Philadelphia as "Health Sunday," and addresses by physicians were made in many churches of the city. Dr. W. C. Rucker, of the United States Public Health Service, spoke on occupation diseases; Dr. Howard A. Kelly, of Baltimore, on alcoholism and prostitution; Dr. Walter B. Cannon, of Boston, on vivisection; Dr. Hugh Cabot, of Boston, on the control of disease by public opinion; and Dr. Joel E. Goldthwait, of Boston, on the relation of proper habits of posture to health.

In New York on June 19 the second annual conference of the Eugenics Research Association was held at Columbia University. Dr. J. A. Rasanoff presented a paper showing that the ratio of insane persons in the United States has nearly trebled in the past 40 years, having risen from 86.5 to 232 per 100,000. In Oklahoma this ratio is only 67 per 100,000, but in Massachusetts it is 413.4 per 100,000, the highest figure in any state.

In Atlantic City, N. J., the annual meeting of the American Academy of Medicine was held on June 20, and the sixty-fifth annual meeting of the American Medical Association on June 22, to June 27. Dr. Victor C. Vaughn was installed as president and made his inaugural address on "The Service of Medicine to Civilization." About 3500 members were in attendance.

"The council on medical education presented its tenth annual report showing that in 1904, when the council was created, there were 160 medical colleges in the United States, many of which were organized and conducted on a purely commercial basis; that, due largely to the council, the number of colleges has been reduced to about 100, and that, whereas in 1906, there were only four medical colleges having a high standard of entrance requirements, there are now eighty-two colleges which require one or more years of college work in addition to a standard four years' high school course as condition for entrance. A striking feature has been that in many cities in which a number of weak medical schools existed they have, through merger and absorption, been combined to form one strong and well equipped institution."

The newly elected officers are Dr. William L. Rodman, of Philadelphia, president; Dr. Alexander Craig, of Chicago, secretary; and Dr. William A. Pusey, of Chicago, treasurer.

CONSTITUTIONALITY OF THE WISCONSIN EUGENIC MARRIAGE LAW.

REPORT from Madison, Wis., states that on June 17 the so-called eugenic marriage law of that state was sustained by the Wisconsin supreme court before which a suit had been brought to test its constitutionality. The opinion of the court, written by Chief Justice Winslow, is in part as follows:

"Neither the legislative idea nor the legislative purpose in the passage of the present law can be a matter of serious doubt. The idea plainly was the transmission of venereal diseases by newly married men to their innocent wives and the purpose just as plainly was to remedy that evil so far as possible by preventing the marriage of men who, upon examination, were found to possess such disease.

"In view of the fact that the Legislature wished to reach practical results, it seems unreasonable to suppose that they intended to prescribe tests which the great majority of the official examiners were not able to make. We prefer to construe the words 'recognizel test' as intended to refer to the tests recognized and used by the people who were to make them. This construction sustains the law, makes it reasonable, accomplishes its evident purpose and provides for a guard to marriage fully as effective in the vast majority of cases as the application of the Wassermann test.

"We have not been able to appreciate the force of the contention that the law interferes in any respect with religious liberty. We know of no church which desires its ministers to profane the marriage ties by uniting a man afflicted with a loathsome disease to an innocent woman."

The elimination of the compulsory Wassermann test removes much of the difficulty in the administration and enforcement of the law. This decision is of importance as a precedent in the future establishment of similar legislation in other states.

Correspondence.

EDUCATION OF THE PUBLIC IN MEDICAL AFFAIRS.

BOSTON, June 15, 1914.

Mr. Editor: Moved by the inspiring address of Dr. H. D. Arnold before The Massachusetts Medical Society, at its annual meeting, and by reason of the evident need of public information, and the growing conviction by physicians that this need should be met, the attention of the profession is called to the following facts:

On June 9th inst., report was received by the State Board of Health of the death of a girl, stating that this child was treated for several days by a "Scientist." A physician was not called until death seemed imminent.

Inquiry at the office of the local Board of Health, showed that another child in the same family was afflicted with diphtheria.

An investigation by a state physician was made, and the following report submitted:

The child took sick on Sunday, May 31st., "with a swelling on the outside of the throat." The child's parents are Christian Scientists, and a Christian Scientist practitioner was called to see and treat the child. The case was diagnosed by the family as one of mumps. The child was sick for a week. On Friday night, June 5th, about 11.30 o'clock, the mother noticed that there was "something wrong with the child as she was not breathing right," and called a registered physician to see the child, who was either dead or died shortly after the doctor reached the house.

The doctor, according to his statement over the telephone, made no examination of the child, but signed the death certificate giving as the cause of death "Inflammation of the parotid gland" (mumps). A member of the local board of health refused to accept the diagnosis. Meanwhile a brother of the girl took sick on Saturday, June 6th with diphtheria. (The diagnosis of diphtheria was confirmed by the examination of a bacteriological culture submitted to the laboratory of the State Board of Health.) The doctor then changed the death certificate of the girl, giving diphtheria as the cause of the death.

The house was quarantined by the local board of health, and a private burial took place on Tuesday morning, June 9th.

When I talked with the doctor relative to the facts in the case he told me that he was quite sure that the child died of mumps and not of diphtheria and that he changed his diagnosis to satisfy the local board of health. When I pointed out to him that it was extremely unlikely that mumps was the cause of death, he explained the vital result by the fact "that the child went bathing the day before she took sick" ! ! !

I asked the doctor whether he used antitoxin for the boy now ill with diphtheria and he said he did not believe in antitoxin; that from his experience and observations, antitoxin did much harm; that he could cure cases of diphtheria without resorting to the use of antitoxin and that in all his years of practice he used it in only one case. While this case came out well, he said, nevertheless, he would not continue its use and added that there was not sufficient money that would buy him to permit the administration of antitoxin to himself or to any member of his family.

On my suggestion that he suggest that the family permit some physician from the board of health to administer antitoxin to the boy now sick with diphtheria, he stated that so far as he was concerned the board of health could give antitoxin, but that he could not make the suggestion to the family.

When I visited the family with a member of the local board of health this morning, June 10th, the boy impressed me as being very sick. His tonsils were much swollen and angry looking and covered with patches of membrane. A culture was taken which proved positive on the swab examination.

The family consists of the father, mother and six children, one a girl of sixteen assists in the house and does not go to school; a boy of fourteen who does not go to school and is not now at home. The boy that is now sick attended school until June 5th. The girl of eight who died, attended school on May 20th. Two other children are two and four years of age respectively.

The local board of health has now established the recognized procedure to combat extension of disease.

The following analysis of the situation has been made by an official of the State Board of Health:

The salient features of the entire situation are these:

1. A Christian Science family allowing a disease in all probability contagious, certainly contagious if diphtheria, to run its course and permitting the child to die without any attempt to save the child's life by proper medical care.
2. A registered physician in Massachusetts signing a death certificate of a child who is either dead or who died a short time after the physician's arrival, without an examination, and accepting the diagnosis of a mother as mumps,—a disease practically never ending in death,—and then later promptly changing the death certificate to "satisfy the board of health."
3. A registered physician in Massachusetts, who refuses to use antitoxin in diphtheria.
4. The failure to summon the medical examiner after the death of the little girl, who unquestionably died from diphtheria.

In view of this situation, I want to urge earnestly that the profession read carefully Dr. Arnold's paper, and then act: Start a campaign of education in every community so that the people may know the beneficent results of modern medicine in the treatment of certain diseases, and the power which preventive medicine has in controlling the extension of communicable diseases and the terrible responsibility assumed oftentimes by parents and certain classes of unqualified practitioners.

Establish in the profession a definite knowledge of the low standards of medical registration in Massachusetts so as to lay the foundation for a movement which will induce the legislature to put Massachusetts in the same rank with her progressive sister states.

Convince the public that we are not creating a medical trust but that every advance in medical practice and medical legislation has brought benefit and protection to the people and not to the profession.

The present degrading situation can be changed only by concerted effort on the part of the medical profession.

WALTER P. BOWERS, M.D.

CHANGES IN THE MEDICAL CORPS, U. S. NAVY, FOR THE THREE WEEKS ENDING JUNE 13, 1914.

May 25, Asst. Surgeon G. M. Faulkner, M.R.C., commissioned May 5.

Asst. Surgeon C. Wheatley, M.R.C., commissioned May 8.

Asst. Surgeon J. A. Omer, M.R.C. commissioned May 6.

May 27, P. A. Surgeon T. W. Reed, detached, *San Francisco* to W. O.

Asst. Surgeon H. R. McAllister, detached, Training Station, San Francisco, to Training Station, Guam.

Asst. Surgeon William McKinney, M.R.C., commissioned May 1.

May 28, Asst. Surgeon W. E. Eaton, detached, *Connecticut* to W. O.

May 29, P. A. Surgeon D. H. Noble, from *Ohio* to *San Francisco.*

P. A. Surgeon E. C. White, to Navy Recruiting Station, N. Y.

P. A. Surgeon J. R. Phelps, from Boston Hospital, to *Connecticut.*

June 2, P. A. Surgeon H. A. Giltner, from Naval Hospital, Norfolk, Va., to *San Francisco.*

June 5, P. A. Surgeon W. N. McDonell, from Annapolis to Boston Hospital.

Asst. Surgeon R. M. Lhamon, to Las Animas Hospital.

June 9, Surgeon E. M. Shipp, detached, Navy Yard, Puget Sound, Washington, to Bureau of Medicine and Surgery, Navy Department.

Surgeon G. B. Whitmore, detached, Naval Hospital, Puget Sound, Washington, to Pacific Fleet.

Act. Asst. Surgeon M. E. Rose, to Navy Recruiting Station, New York, N. Y.

June 11, Surgeon J. R. Dykes, to Receiving Ship, at Navy Yard, Mare Island, Cal.

P. A. Surgeon A. R. Hayward, detached, Naval Hospital, Philadelphia, Pa., to *Milwaukee.*

Asst. Surgeon S. D. Hart, detached *Prairie* to home W. O.

Asst. Surgeon G. E. Faukner, M.R.C., to Norfolk Hospital.

Asst. Surgeon W. E. Stoops, M.R.C., to Great Lakes Hospital.

June 13, P. A. Surgeon J. B. Mears, detached, Naval Training Station, St. Helena, Va., to Receiving Ship at Norfolk, Va.

P. A. Surgeon J. G. Omelvena, commissioned October 1, 1913.

P. A. Surgeon L. L. Pratt, commissioned October 1, 1913.

P. A. Surgeon J. V. Howard, commissioned October 1, 1913.

P. A. Surgeon C. C. Kress, commissioned from Oct. 5, 1913.

Asst. Surgeon E. K. Scott, commissioned from May 5, 1914.

APPOINTMENTS.

TUFTS MEDICAL SCHOOL.—*Dr. Frederic M. Briggs* has been elected Professor of Surgery Emeritus in Tufts College Medical and Dental Schools.

Dr. F. M. Meader, formerly associate professor of bacteriology and pathology at Johns Hopkins, and at present professor of preventive medicine and hygiene at the College of Medicine, Syracuse University, has been appointed director of the division of communicable diseases in the New York State Health Department and *Prof. William H. Park* of New York, consulting bacteriologist to the department.

RESIGNATION.

It is announced that *Dr. Edward A. Spitzka*, son of the late Dr. Edward C. Spitzka, has resigned his professorship in the Jefferson Medical College, Philadelphia, and will return to New York to reside.

RECENT DEATHS.

DR. RUPERT NORTON, who died of typhoid fever on June 19, at Baltimore, Md., was born in Cambridge, Mass. He received the degree of A.B from Harvard in 1888, and that of M.D. in 1893. He was assistant superintendent of the Johns Hopkins Hospital. He is survived by his widow.

DR. EDWARD M. SHIPP, a United States naval surgeon, who died recently at Puget Sound, Wash., was born at Barboursville, Va., in 1868. During the Spanish War he served aboard the *Bancroft* and the *Lancaster*, and at other times had served on the *Wilmington*, the *Illinois*, and the *Pennsylvania*. His land duty had been at the New York Naval Hospital and the Washington Navy Medical School Hospital. He had been commander of the Naval Hospital at Yokohama, Japan, and at the time of his death was commander of the Puget Sound Hospital.

DR. CALEB S. MIDDLETON, of Philadelphia, died at Ardmore, Pa., on June 24, at the age of 76. He was a former president of the Pennsylvania State Board of Medical Examiners.

DR. CALEB WAKEFIELD CLARK, a Fellow of The Massachusetts Medical Society, died at his home in Melrose Highlands, Mass., June 13, 1914. aged sixty years.